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US ARMY CORPS
OF ENGINEERS
New England District

Contract No. DACW33-01-D-0004
Delivery Order No. 01
November 2005

Chemistry Data Report

Task RI-13B
Semi-permeable Membrane Device (SPMD) Investigation

Centredale Manor Restoration Project Superfund Site
North Providence, Rhode Island

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November 10, 2005

Ms. Beverly Lawrence
U.S. Army Corps of Engineers
New England District
696 Virginia Rd.
Concord, MA 01742-2751

CONTRACT NO. DACW33-01-D-0004
DELIVERY ORDER: 1
SUBMITTAL OF DELIVERABLE – Task RI-13 Semi-permeable Membrane Device (SPMD) Investigation, Chemistry Data Report

Dear Ms. Lawrence:

Enclosed please find two double-sided copies of the final, validated chemistry data report for Delivery Order 01, *Centredale Manor Restoration Project Superfund Site.* This report includes *in-situ* and analytical results from the semi-permeable membrane device (SPMD) investigation conducted at the Centredale Manor Restoration Project (CMRP) Superfund site in June 2005. Analytical results reported here will be interpreted with the feasibility study (FS). The SPMD investigation, results and validation activities are summarized below.

2005 SPMD INVESTIGATION

The SPMD investigation included two components: 1) deployment and retrieval of SPMDs at water column and sediment locations along the eastern bank of the Woonasquatucket River and at Well MW-05S and 2) chemical analysis of SPMDs, co-located sediments and groundwater from Well MW-05S.

SPMD Deployment and Retrieval

SPMDs were deployed on June 3, 2005 at six locations – five locations in the Woonasquatucket River and one location in the Brook Village parking lot at Well MW-05S (Figure 1). River locations were selected with respect to the area of expected discharge of VOC-contaminated groundwater, as determined from the vapor-to-water diffusion study conducted by the U.S. Geological Survey in 1999 (USGS, 2000). Locations CMS-SPMD2, CMS-SPMD3 and CMS-SPMD4 were located within the area of expected discharge (Figure 1). The other two river stations (CMS-SPMD1 and CMS-SPMD5) were located outside the area of expected discharge (Figure 1).

SPMD deployment and retrieval was conducted according to the approved work plan (Battelle, 2005), with the following exceptions:

- Relative hydraulic head measurements were not collected because the river bottom was dominated by cobble and the mini-piezometer could not penetrate deep enough to get reliable readings.
- The physical USGS stage height gauge is no longer present at the site and visual readings could not be obtained as a result. However, the USGS gauge has been replaced with the real-time

USGS gauge 01114500, which is physically located at the same place (but in a locked "shed"). Real-time readings from the gauge were obtained from the USGS website (http://waterdata.usgs.gov/ri/nwis/uv/? site_no=01114500&PARAmeter_cd=00065,00060). Water depth measurements in the field were consistent with the stage height readings from that gauge.

- Adjustments to selected SPMD locations were made in the field as follows:
  - CMS-SPMD1 (upstream location) – This is in an area of very high current and the bottom type is cobble and boulder with very little sediment. The deployment location was moved to approximately 200-ft upstream rather than 250-ft. The revised location was selected based on water depth, *i.e.*, the water column SPMD was placed in the deepest location possible to avoid air exposure should the river level drop. Further, the buried SPMD cage could not be buried in the sediment as deep as planned due to the rocky sediment bottom. The top of the buried SPMD cage was approximately 2-in below bottom rather than 3-in.
  - CMS-SPMD5 (downstream location) – The SPMD cage could not be buried in the sediment as deep as planned due to the very hard cobble bottom. The top of the cage was approximately 1-in below sediment bottom rather than 3-in.

In-situ water quality data, groundwater elevation data and surface water elevation data collected during SPMD deployment are summarized in Tables 1, 2 and 3, respectively.

During SPMD deployment, co-located sediment samples were collected at each of the five SPMD river locations from a depth equivalent to the center depth of the cage. SPMDs were retrieved on June 30, 2005 after 27-d exposure. During SPMD retrieval, groundwater from Well MW-05S was also collected for chemical testing. SPMD, co-located sediment and groundwater samples collected for chemical testing are summarized in Table 4. Field photos, SPMD deployment and sample collection logs, and elevation survey log sheets are provided in Appendix A. SPMD cages deployed in the water column were fouled. There appeared to be reduced (or no) water flow through the cage deployed in the water column at location CMS-SPMD2 (Figure 1) because the cage was completed fouled (Appendix A). SPMDs in the buried cage located downstream of the Well MW-05S were clear; SPMDs in the buried cages located near Well MW-05S (*i.e.*, CMS-SPMD2 and CMS-SPMD3) and in Well MW-05S were a yellow/green color (Appendix A).

Chemical Testing of SPMD, Co-located Sediments and Groundwater

SPMD and co-located sediment samples (Table 4) were analyzed for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) according to the approved work plan (Battelle, 2005) and project Quality Assurance Project Plan (QAPP) (Battelle, 2002a, b). Groundwater was analyzed for dioxin/furans and volatile organic compounds (VOCs) according to Battelle (2002a,b and 2005).

SPMD results are summarized in Figures 2 and 3; complete data are presented in Sections 1 and 2 of this report. SPMDs buried in the river sediment at the upstream locations had relatively low TCDD concentrations (Figure 2). Concentrations increased substantially, however, at locations immediately downstream of Well MW-05S (Figure 2). TCDD concentrations returned to background levels further downstream (Figure 2). Concentrations of TCDD in the SPMDs from the water column locations were comparable at upstream and downstream locations and were not significantly higher than SPMD blank values (Figure 3). TCDD was detected in the SMPD retrieved from Well MW-05S, suggesting that dissolved dioxin was present in the groundwater at Well MW-05S (Figure 3). SPMD results will be further interpreted in the FS.

RESULTS

This report is organized in three sections and one appendix, as follows:

Section 1—Dioxin Results
Section 2—Volatile Organic Compound (VOC) Results
Section 3—Third Party Validation Reports
Appendix A—Field Documentation

Sections 1 and 2 of this document are organized as follows:

1. A QA/QC narrative, which includes a discussion of the QC results and a description of measurement performance criteria (MPC) exceedances and the impact, if any, the exceedances may have on the overall field sample data.

2. Summary report tables for all field and QA/QC samples. Data for authentic sediment samples are presented on a pictogram per gram (pg/g) dry weight basis. SPMD analytical results are presented in pg/sample basis. Groundwater dioxin data are presented in pg per liter (pg/L) and the VOC data are in microgram per liter (µg/L). QC samples are presented on a concentration (blanks and laboratory duplicates), recovery (LCS, MS, MSD), and/or percent difference (SRM) basis. All report tables follow EDD reporting format requirements.

Chemistry results were evaluated against the MPC identified in the project QAPP and data qualifiers were applied when the analytical MPCs were exceeded.

All chemistry data have been loaded into the Centredale database.

VALIDATION SUMMARY

Laboratory data generated for this study received internal verification and validation by the Quality Assurance (QA) officers from each participating laboratory (Table 5). All data were then finalized through third party validation, which was conducted by USEPA Region 1 and Environmental Standards of Valley Forge, PA (Section 3). This data report has also been reviewed and validated by the Battelle Quality Assurance Unit to verify the accuracy and completeness of the report, and by a senior scientist for technical accuracy.

Dioxin data were validated by USEPA Region 1 at a Tier III level using first the criteria in the Centredale Manor Tasks 19-22 QAPP (Battelle 2001) that included the QAPP Addendum (Battelle 2002a) and the QAPP Errata Sheet (Battelle 2002b), and also included the criteria in EPA Method 1613B, September 15, 1997, defaulting next to *Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses*, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/08/2003).

VOC data were validated by Environmental Standards of Valley Forge, PA at a Tier II level in accordance with the *Region I, EPA New England Data Validation Functional Guidelines for Evaluating Environmental Analyses* (US EPA, 12/1996), the *Centredale Manor Restoration Project Site Final Quality Assurance Project Plan (QAPP) – Addendum to Tasks 19-22 QAPP* (Battelle, 2002a), and the *Errata to Centredale Manor Tasks 19-22 Quality Assurance Project Plan – Addendum* (Battelle, 2002b).

In general, the validator fields in the final, validated EDDs (e.g., FINAL_RESULT) are only populated for study samples, not internal laboratory QC samples (e.g., blank, LCS, or duplicate). Updating the validator fields for internal laboratory QC samples is not a required element of third party validation.

Validation reports are provided in Section 3.

REFERENCES

Battelle, 2001. Tasks 19-22 Quality Assurance Project Plan for Centredale Manor Restoration Project Superfund Site Baseline Risk Assessment, Initial Project Planning and Support. Prepared under contract for U.S. Army Corps of Engineers North Atlantic Division, New England. Contract No. DACW33-96-D-0005, Delivery Order No. 59. May 23, 2001. 509 pp + apps.

Battelle, 2002a. Tasks 19-22 Quality Assurance Project Plan for Centredale Manor Restoration Project Superfund Site Baseline Risk Assessment, Initial Project Planning and Support – Addendum. Prepared under contract for U.S. Army Corps of Engineers North Atlantic Division, New England. Contract No. DACW33-01-D-0004, Delivery Order No. 01. September 27, 2002. 218 pp + apps

Battelle, 2002b. Errata to Tasks 19-22 Quality Assurance Project Plan for Centredale Manor Restoration Project Superfund Site Baseline Risk Assessment, Initial Project Planning and Support – Addendum. Prepared under contract for U.S. Army Corps of Engineers North Atlantic Division, New England. Contract No. DACW33-01-D-0004, Delivery Order No. 01. November 6, 2002. 6 pp.

Battelle, 2005. Final Work Plan: Groundwater, Semi-permeable Membrane Device (SPMD) and Sediment Collections at Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island. April 2005. 11 pp.

U.S. Geological Survey. 2000. Distribution of Selected Volatile Organic Compounds Determined with Water-to-Vapor Diffusion Samplers at the Interface Between Ground Water and Surface Water, Centredale Manor Site, North Providence, Rhode Island, September 1999. USGS Open File Report No. 00-276.

USEPA, 1996. Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, U.S. EPA-New England, Region I Quality Assurance Unit Staff, Office of Environmental Measurement and Evaluation, December 1996 Revision.

If you have any questions regarding this report please call Deirdre Dahlen at (781) 952-5253.

Sincerely,

Theresa Himmer
Sr. Technician

Lisa Lefkovitz
Program Manager

encl.

cc: A. Krasko, USEPA (3 copies)
C. Rosiu, USEPA
C. Vu, USEPA
L. Maccarone, RIDEM
S. Stodola, USEPA

Table 1. SPMD, Sediment and Groundwater Samples Collected at the CMRP Site, June 2005.

Matrix	Sample ID	Sample Location	Collection Date	Laboratory ID	
				Dioxin	VOC
SPMD (a)	CMS-SPMD1-S-01	CMS-SPMD1	30-Jun-05	50971-19-16	N/A
	CMS-SPMD1-W-01			50971-19-14	
	CMS-SPMD1-W-02			50971-19-15	
	CMS-SPMD2-S-01	CMS-SPMD2		50971-19-13	
	CMS-SPMD2-W-01			50971-19-11	
	CMS-SPMD2-W-02			50791-19-12	
	CMS-SPMD3-S-01	CMS-SPMD3		50971-19-10	
	CMS-SPMD3-W-01			50971-19-08	
	CMS-SPMD3-W-02			50971-19-09	
	CMS-SPMD4-S-01	CMS-SPMD4		50971-19-07	
	CMS-SPMD4-W-01			50971-19-05	
	CMS-SPMD4-W-02			50971-19-06	
	CMS-SPMD5-S-01	CMS-SPMD5		50971-19-04	
	CMS-SPMD5-W-01			50971-19-02	
	CMS-SPMD5-W-02			50971-19-03	
	CMS-SPMD-MW05S-01	MW-05S		50971-19-17	
Sediment (b)	CMS-SD-5001	CMS-SPMD1	3-Jun-05	50971-29-02	
	CMS-SD-5002	CMS-SPMD2		50971-29-03	
	CMS-SD-5003	CMS-SPMD3		50971-29-04	
	CMS-SD-5004	CMS-SPMD4		50971-29-05	
	CMS-SD-5005	CMS-SPMD5		50971-29-06	
Groundwater	CMS-GW-MW05S-05	MW-05S	30-Jun-05	50971-35-29	C5G010308001
Field QC					
SPMD	Un-exposed SPMD Blank	N/A	30-Jun-05	50971-19-19	N/A
SPMD	SPMD Trip Blank	N/A	30-Jun-05	50971-19-18	N/A
Water	VOC Trip Blank	N/A	30-Jun-05	N/A	C5G060123001
Groundwater	CMS-GW-MW05S-05DU	MW-05S	30-Jun-05	N/A	C5G010308002

N/A, Not applicable.
(a) Three sets of SPMDs were deployed at each river location. The SPMD cage buried in the river sediment is denoted by "-S-01" in the sample ID. SPMDs deployed in the water column are denoted by "-W-01" or "-W-02" in the sample ID.
(b) Co-located sediment was collected during SPMD deployment on June 3, 2005. Sediment was collected to a depth of approximately 6-in and within 1-ft of the location where the SPMD was deployed.

Table 2. *In-Situ* Water Quality Data Collected During SPMD Deployment, June 2005.

Location	Temperature (°C)	Specific Conductivity (µS/cm)	Salinity (ppt)	Dissolved Oxygen Saturation (%)	Dissolved Oxygen (mg/L)	Depth (feet)	pH	Turbidity (NTU)
CMS-SPMD1	19.6	0.31	0.15	119	10.9	0.55	7.00	2.0
CMS-SPMD2	19.6	0.31	0.15	121	11.1	1.03	6.99	1.2
CMS-SPMD3	19.6	0.31	0.15	122	11.1	1.13	6.95	1.2
CMS-SPMD4	19.6	0.31	0.15	122	11.2	1.42	6.96	1.1
CMS-SPMD5	19.5	0.31	0.15	123	11.3	1.39	6.83	1.7
Well MW-05S (a)	16.2	0.34	NA	NA	NA	NA	6.38	14.5

(a) Data from Well MW-05S was collected on June 30, 2005, during SPMD retrieval. Water quality measurements were recorded using the water purged from the well prior to sample collection for VOC and dioxin/furan analysis.

Table 3. Groundwater Elevation Data Collected During SPMD Deployment, June 2005. Elevations and Depths are in Feet (ft).

Location	Previously Surveyed Elevations (top of well risers)	Well Water Surface (below top of riser)	Groundwater Water Elevation	Depth to Bottom of Well (from top of riser)	Bottom of well (elevation)
MW05S	102.34	4.4	97.94	9.3	93.04
P20	102.25	4.2	98.05	8.7	93.55
P2	102.63	4.5	98.13	9.2	93.43
P3	103.40	5.9	97.50	9.7	93.70

Table 4. Surface Water Elevation Data Collected During SPMD Deployment, June 2005. Elevations and Depths are in Feet (ft).

Location	Sediment Surface Elevation	Water depth	Surface Water Elevation
CMS-SPMD1	93.99	2.10	96.09
CMS-SPMD2	92.34	2.70	95.04
CMS-SPMD3	92.54	2.60	95.14
CMS-SPMD4	93.14	2.75	95.89
CMS-SPMD5	92.57	2.50	95.07

Table 5. Identification of Participating Laboratories and Data Validators.

Analysis Parameters	Laboratory	Third Party Validator
Dioxin/Furans	Battelle, Columbus, OH	USEPA Region 1
VOC	Severn Trent Laboratories (STL), Pittsburgh, PA	Environmental Standards

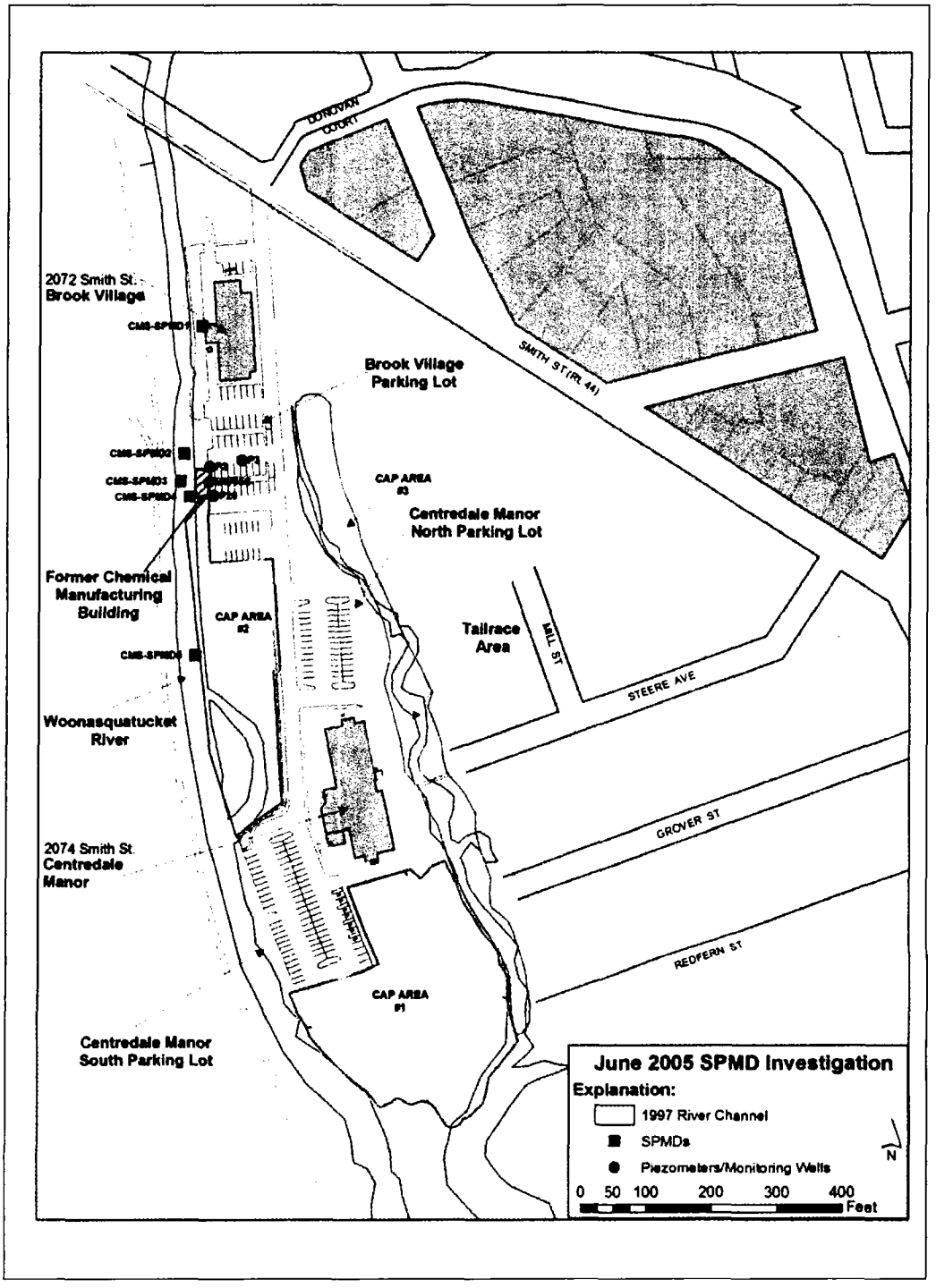

Figure 1. SPMD Sample Locations. Co-located Sediments were Collected at each SPMD Location; Groundwater was Collected at Well MW-05S. (Sample location coordinates are accurate to 4-6m, and as a result, CMS-SPMD1 appears to be located on the Brook Village Patio area, even though this station is actually located along the eastern edge of the river channel.)

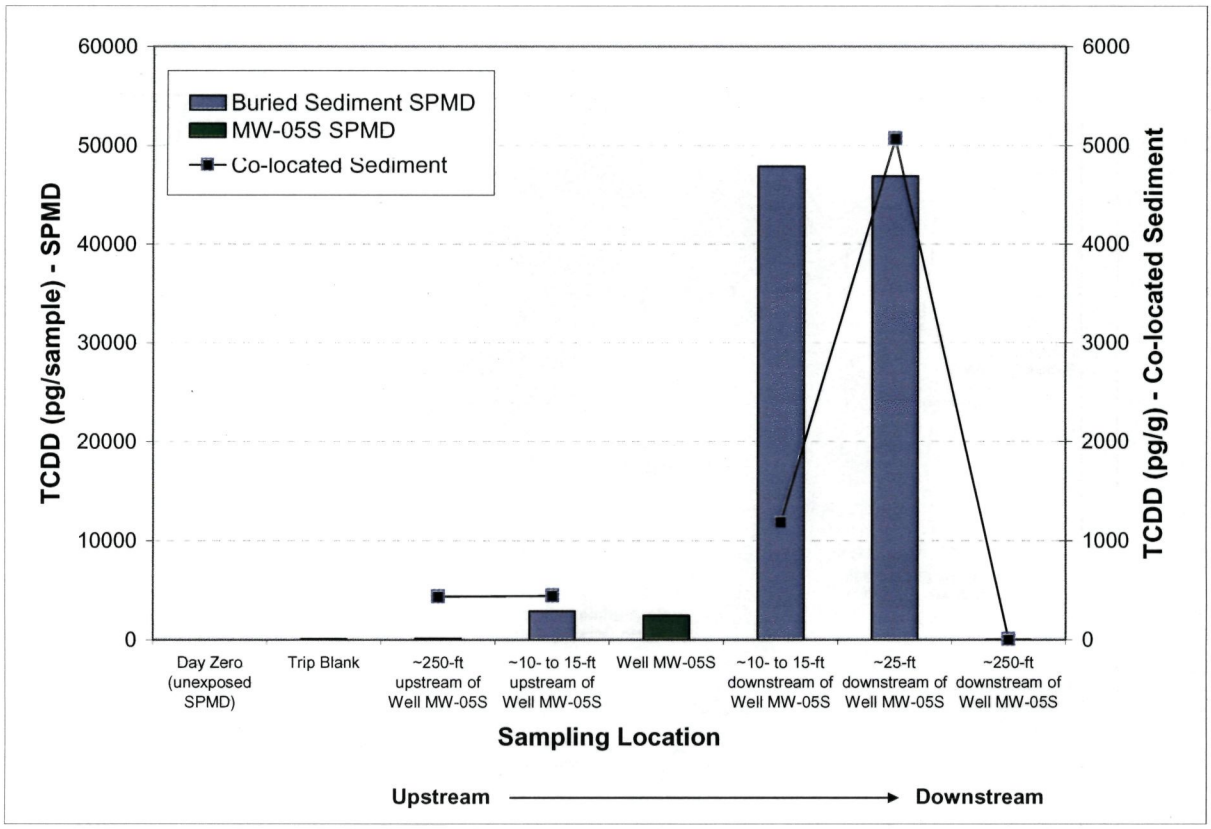

Figure 2. TCDD Concentrations in SPMDs Buried in River Sediment (blue bar), at Well MW-05S (green bar), and in Co-located Sediments (line). Field QC included a day zero SPMD blank (un-exposed) and a SPMD trip blank (exposed). Data are presented from an upstream to downstream direction.

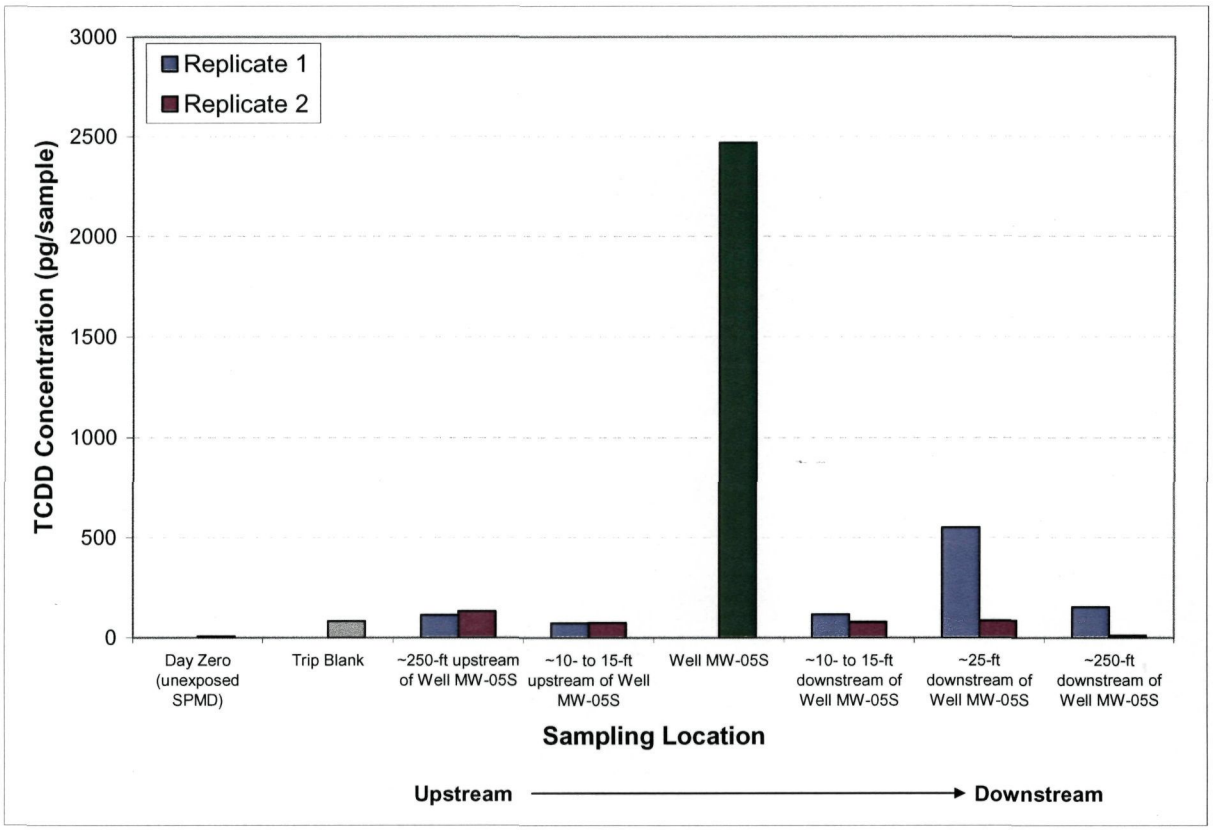

Figure 3. TCDD Concentrations in SPMDs Deployed in the Water Column (blue and red bars) and in Well MW-05S (green bar). Field QC included a day zero SPMD blank (un-exposed) and a SPMD trip blank (exposed). Data are presented from an upstream to downstream direction.

Section 1
Dioxin Results

Semi-Permeable Membrane Devices (SPMDs)

DIOXIN/FURAN SEDIMENT QA/QC SUMMARY
QC Batch 50971-19

PROJECT:	USACE NAE Delivery Order #01 Centredale
PARAMETER:	2,3,7,8-TCDD (TCDD) by High Resolution Mass Spectrometry (HRMS)
LABORATORY:	Battelle, Columbus, OH
MATRIX:	Semi-Permeable Membrane Device (SPMD)
SAMPLE CUSTODY:	Eighteen SPMD samples were received at Battelle Columbus on July 6, 2005. All but two samples were received in good condition and the cooler temperatures upon receipt were 0.8°C and 2.3°C, respectively. Two samples CMS-SPMD4-W-01 and CMS-SPMD3-W-02 were broken in the bottom of the jar. However, because each sample was packed in individual bubble bags and then placed in the jar, the two samples did not appear compromised. The project manager was notified and gave the OK to proceed with the samples in broken jars. Broken jars were replaced on receipt at the laboratory. The eighteen SPMDs were processed in QC Batch 50971-19.

QA/QC MEASUREMENT PERFORMANCE CRITERIA:

	Reference Method	Blank	Surrogate Recovery	LCS/MS Recovery	SRM % Diff.	MS/MSD Replicate Relative Precision	Achieved RL (pg/sample)	Project Goals [c] (pg/g dry)
Dioxin/ Furan/	L-23 Battelle SOP ASAT.II-001-02	<5× MDL, or associated samples >5x blank values	25-150% Recovery	*LCS:* Method 1613B, Table 6 OPR[a] *MS/ MSD:* NA	NA	NA	Tetras: 0.74 – 13.92	Tetras: NA

[a] Method 1613B, Table 6 OPR requirements documented on LCS summary report table.

METHOD: SPMD samples were processed and analyzed for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (TCDD) following general procedures in EPA Method 1613 as outlined in the Final Quality Assurance Project Plan Addendum 3, Lyman Mill Pond Sediment Investigation, Centredale Manor Restoration Project Superfund Site, North Providence , Rhode Island (March 2005).

Sample Preparation – All SPMDs were spiked with 2,3,7,8-TCDD-$^{37}Cl_4$ by the manufacturer prior to field deployment in order to assess the retention of the target analyte during sampling. The eighteen SPMD samples were processed in BATCH 50971-19. Debris was wiped off each sample using individual Kim Wipes wetted with de-ionized water. After the SPMDs were wiped down it was noted that samples CMS-SPMD2-S-01, CMS-SPMD3-S-01, CMS-SPMD4-S-01 and CMS-SPMD-MW05S-01 were yellow in color. One of the two SPMDs that comprised sample CMS-SPMD1-S-01 contained a pocket of air and one of the two SPMDs that comprised sample CMS-SPMD2-W-01 contained a tear along one side. The cleaned SPMD samples were placed in 250-mL individual jars with Teflon-lined screw caps. An empty jar was used for each of the method blank and the laboratory control sample (LCS). Hexane (100 mls) was added to each sample jar, and then each jar was spiked with $^{13}C_{12}$-labeled PCDD/PCDF internal standard solutions. The LCS sample was spiked with native PCDD/PCDF at this time. The sample jars were capped and sealed with Teflon tape. The samples were then placed on the shaker table and shaken for 12 hours. After 12 hours of shaking the hexane was decanted from each sample into individual Turbo

tubes. This procedure was repeated adding the second 100 mLs of hexane for each sample to the first fraction of hexane for each sample. Another 100 mLs of hexane was added to each sample jar and the samples were placed on the shaker table for 4 hours of shaking. The third fraction of hexane for each sample was added to the previous two fractions for each sample. Each extract went through gel permeation chromatography (GPC) cleanup then each extract was then processed through acid/base silica and carbon cleanup columns. The SPMD extracts were spiked with 1,2,3,4-TCDD-$^{13}C_{12}$ and 1,2,3,7,8,9-HxCDD-$^{13}C_{12}$ recovery standard and concentrated to a final sample volume of 20 µL.

2,3,7,8-TCDD Analysis – Each extract was analyzed by gas chromatography/high resolution mass spectrometry (GC/HRMS) in the selected ion-monitoring mode at a resolution of 10,000 or greater. A DB5, or equivalent, column was used for the analysis of the 2,3,7,8-TCDD.

The following revisions to Method 1613 as well as several items to note specifically related to these analyses are summarized below:

1. Quality control samples processed with this batch of samples included one method blank and one LCS (OPR).

2. The GC/HRMS instrumentation was calibrated for PCDD/PCDF at levels specified in Method 1613 with two additional calibration standards at concentrations equivalent to $^{1}/_{10}$ and ½ the level of Method 1613's lowest calibration point. The CS-0.5 is used to calculate the reporting limit and the CS-0.1 is used mainly as a sensitivity check. The calibration range corresponds to the following levels on a per sample basis assuming a final sample volume of 20 µL: 5.0 to 4,000 pg/sample for 2,3,7,8-TCDD.

Any additional minor revisions to Method 1613 are fully documented in the analytical record.

Sample CMS-SPMD-5-S-01was found to have poor chromatography in the initial analysis. This sample was diluted and re-analyzed to improve chromatography.

Upon initial analysis it was found that 2,3,7,8-TCDD had peak areas above the level of the calibration curve in samples CMS-SPMD3-S-01 and CMS-SPMD2-S-01; therefore, these samples were diluted and re-analyzed. The results for 2,3,7,8-TCDD for these samples are reported from the dilution analyses.

HOLDING TIMES:

Samples were prepared for analysis in one analytical batch. Samples were extracted within 1 week of receipt at the laboratory and completely analyzed within 3 weeks of extraction.

Batch	Extraction Date	Analysis Date
50971-19	07/12/2005	07/28-08/02/2005

DETECTION LIMITS:

TCDD results are reported relative to the sample-specific reporting limits (also referred to as QL in the QAPP) for that compound. The sample-specific RL is based on the low calibration standard and adjusted for sample specific processing factors and volumes, as follow:

RL = (Conc. in CS-0.5 Std. × final extract volume × dilution factor)/ Sample size

Where,
Conc. in low standard = 0.25 to 2.5 pg/µL
Final Extract Volume = 20 µL
Dilution Factor = documented in project file
Sample Size = 1

BLANKS: One laboratory method blank was processed with the analytical batch. Blanks are analyzed to ensure that the sample extraction and analysis methods were free of contamination.

50971-19– The target analyte was not detected.

LABORATORY CONTROL SAMPLE: A laboratory control sample (LCS or OPR) was prepared with the analytical batch. The percent recoveries of target compounds were calculated to measure data quality in terms of accuracy.

50971-19 – The LCS sample met the criteria found in Table 6 of Method 1613, Revision B for TCDD.

MATRIX SPIKES: NA.

INTERNAL STANDARDS: Fifteen internal standards were added to each sample prior to processing. Internal standard recoveries were calculated to measure data quality in terms of accuracy (sample processing efficiency).

50971-19 – Recoveries of internal standards were within 25-150% for all analytes in all samples.

SRM: NA

REFERENCES: Battelle 2005. Final Quality Assurance Project Plan Addendum 3, Lyman Mill Pond Sediment Investigation, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island (March 2005).

QUALITY ASSURANCE STATEMENT

Project Title: USACE New England District, Centredale Manor Task RI-13 SPMD Samples (SDG 50971-19): Dioxin/Furan Data

Project Number: G487002-RI13B2

Description of Data: SPMD samples for Dioxin/Furan

Description of audit and review activities:
1)Reviewed sample preparation Laboratory Record Books (LRB). Tracked COC from sample receipt to analytical injection. Reviewed standard/spike preparation records. Resolved all resulting LRB numbers (i.e. sample tracking numbers) with analytical designations. Reviewed data package for data recording consistent with the QAPP and department SOPs.

2)Reviewed analytical (HRMS) data. Reviewed all hand-entered parameters (e.g. sample masses, sample names, calibration curve date, etc) for each analytical run. Reviewed calibrations results to ensure that Relative Response Factors (RRF) were within the limit of calibration RRF. Reviewed 10% data transfer to spreadsheets.

3)Reviewed spreadsheets. Accessed e-file of excel spreadsheets and reviewed formula and relative and absolute cell addresses to ensure accurate data transposition.

4)Reviewed report. Ensured report accurately reflected raw data and resulting spreadsheets.

Description of outstanding issues or deficiencies which may affect data quality:
1) Minor QC issues were submitted to the analytical staff for correction, no outstanding issues present.

Eiko Weller
Quality Assurance Specialist
Measurement and Data Analysis Sciences
Battelle

08/11/05
Date

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE	ANAL_DATE
CMS-SPMD-MW05S-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD-MW05S-01	1746-01-6	2470.04		PG/SAMPLE		50971-19	BCO	50971-19-17	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD-MW05S-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD-MW05S-01	76523-40-5	60		PCT_REC		50971-19	BCO	50971-19-17	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD-MW05S-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD-MW05S-01	85508-50-5	84		PCT_REC		50971-19	BCO	50971-19-17	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD5-W-02	DIOXIN	2,3,7,8-TCDD	CMS-SPMD5-W-02	1746-01-6	131.98		PG/SAMPLE		50971-19	BCO	50971-19-03	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD5-W-02	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD5-W-02	76523-40-5	74		PCT_REC		50971-19	BCO	50971-19-03	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD5-W-02	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD5-W-02	85508-50-5	89		PCT_REC		50971-19	BCO	50971-19-03	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD5-W-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD5-W-01	1746-01-6	114.84		PG/SAMPLE		50971-19	BCO	50971-19-02	06-Jul-05	12-Jul-05	28-Jul-05
CMS-SPMD5-W-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD5-W-01	76523-40-5	70		PCT_REC		50971-19	BCO	50971-19-02	06-Jul-05	12-Jul-05	28-Jul-05
CMS-SPMD5-W-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD5-W-01	85508-50-5	92		PCT_REC		50971-19	BCO	50971-19-02	06-Jul-05	12-Jul-05	28-Jul-05
CMS-SPMD5-S-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD5-S-01	1746-01-6	160.14	D	PG/SAMPLE		50971-19	BCO	50971-19-04	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD5-S-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD5-S-01	76523-40-5	76	D	PCT_REC		50971-19	BCO	50971-19-04	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD5-S-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD5-S-01	85508-50-5	110	D	PCT_REC		50971-19	BCO	50971-19-04	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD4-W-02	DIOXIN	2,3,7,8-TCDD	CMS-SPMD4-W-02	1746-01-6	74.93		PG/SAMPLE		50971-19	BCO	50971-19-06	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-W-02	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD4-W-02	76523-40-5	71		PCT_REC		50971-19	BCO	50971-19-06	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-W-02	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD4-W-02	85508-50-5	100		PCT_REC		50971-19	BCO	50971-19-06	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-W-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD4-W-01	1746-01-6	74.03		PG/SAMPLE		50971-19	BCO	50971-19-05	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-W-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD4-W-01	76523-40-5	77		PCT_REC		50971-19	BCO	50971-19-05	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-W-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD4-W-01	85508-50-5	103		PCT_REC		50971-19	BCO	50971-19-05	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-S-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD4-S-01	1746-01-6	2905.17		PG/SAMPLE		50971-19	BCO	50971-19-07	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-S-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD4-S-01	76523-40-5	68		PCT_REC		50971-19	BCO	50971-19-07	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD4-S-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD4-S-01	85508-50-5	109		PCT_REC		50971-19	BCO	50971-19-07	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-W-02	DIOXIN	2,3,7,8-TCDD	CMS-SPMD3-W-02	1746-01-6	79.38		PG/SAMPLE		50971-19	BCO	50971-19-09	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-W-02	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD3-W-02	76523-40-5	70		PCT_REC		50971-19	BCO	50971-19-09	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-W-02	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD3-W-02	85508-50-5	100		PCT_REC		50971-19	BCO	50971-19-09	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-W-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD3-W-01	1746-01-6	116.52		PG/SAMPLE		50971-19	BCO	50971-19-08	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-W-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD3-W-01	76523-40-5	71		PCT_REC		50971-19	BCO	50971-19-08	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-W-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD3-W-01	85508-50-5	109		PCT_REC		50971-19	BCO	50971-19-08	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD3-S-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD3-S-01	1746-01-6	47944.99	D	PG/SAMPLE		50971-19	BCO	50971-19-10	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD3-S-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD3-S-01	76523-40-5	62	D	PCT_REC		50971-19	BCO	50971-19-10	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD3-S-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD3-S-01	85508-50-5	124	D	PCT_REC		50971-19	BCO	50971-19-10	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD2-W-02	DIOXIN	2,3,7,8-TCDD	CMS-SPMD2-W-02	1746-01-6	86.93		PG/SAMPLE		50971-19	BCO	50791-19-12	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD2-W-02	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD2-W-02	76523-40-5	59		PCT_REC		50971-19	BCO	50791-19-12	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD2-W-02	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD2-W-02	85508-50-5	75		PCT_REC		50971-19	BCO	50791-19-12	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD2-W-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD2-W-01	1746-01-6	551.95		PG/SAMPLE		50971-19	BCO	50971-19-11	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD2-W-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD2-W-01	76523-40-5	64		PCT_REC		50971-19	BCO	50971-19-11	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD2-W-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD2-W-01	85508-50-5	75		PCT_REC		50971-19	BCO	50971-19-11	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD2-S-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD2-S-01	1746-01-6	46922.48	D	PG/SAMPLE		50971-19	BCO	50971-19-13	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD2-S-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD2-S-01	76523-40-5	57	D	PCT_REC		50971-19	BCO	50971-19-13	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD2-S-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD2-S-01	85508-50-5	101	D	PCT_REC		50971-19	BCO	50971-19-13	06-Jul-05	12-Jul-05	02-Aug-05
CMS-SPMD1-W-02	DIOXIN	2,3,7,8-TCDD	CMS-SPMD1-W-02	1746-01-6	13.21		PG/SAMPLE		50971-19	BCO	50971-19-15	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-W-02	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD1-W-02	76523-40-5	61		PCT_REC		50971-19	BCO	50971-19-15	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-W-02	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD1-W-02	85508-50-5	79		PCT_REC		50971-19	BCO	50971-19-15	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-W-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD1-W-01	1746-01-6	154.36		PG/SAMPLE		50971-19	BCO	50971-19-14	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-W-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD1-W-01	76523-40-5	74		PCT_REC		50971-19	BCO	50971-19-14	06-Jul-05	12-Jul-05	29-Jul-05

NSAMPLE	METHOD	MDL	IDL	CRDL_CRQL	DIL_FACTOR	PCT_MOIST	COMMENTS	DVTIER	LAB_QC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-SPMD-MW05S-01	MOD 1613B	2.01	5.00		1	0.0	Login ID = 50226-88-17	3	N	2470.04		
CMS-SPMD-MW05S-01	MOD 1613B				1	0.0	Login ID = 50226-88-17	3	N			
CMS-SPMD-MW05S-01	MOD 1613B				1	0.0	Login ID = 50226-88-17	3	N			
CMS-SPMD5-W-02	MOD 1613B	1.20	5.00		1	0.0	Login ID = 50226-88-03	3	N	131.98	U	
CMS-SPMD5-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-03	3	N			
CMS-SPMD5-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-03	3	N			
CMS-SPMD5-W-01	MOD 1613B	1.02	5.00		1	0.0	Login ID = 50226-88-02	3	N	114.84	U	
CMS-SPMD5-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-02	3	N			
CMS-SPMD5-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-02	3	N			
CMS-SPMD5-S-01	MOD 1613B	13.23	5.00		4	0.0	Login ID = 50226-88-04	3	N	160.14	U	1:4 Dilution
CMS-SPMD5-S-01	MOD 1613B				4	0.0	Login ID = 50226-88-04	3	N			
CMS-SPMD5-S-01	MOD 1613B				4	0.0	Login ID = 50226-88-04	3	N			
CMS-SPMD4-W-02	MOD 1613B	1.26	5.00		1	0.0	Login ID = 50226-88-06	3	N	74.93	U	
CMS-SPMD4-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-06	3	N			
CMS-SPMD4-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-06	3	N			
CMS-SPMD4-W-01	MOD 1613B	1.83	5.00		1	0.0	Login ID = 50226-88-05	3	N	74.03	U	
CMS-SPMD4-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-05	3	N			
CMS-SPMD4-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-05	3	N			
CMS-SPMD4-S-01	MOD 1613B	1.19	5.00		1	0.0	Login ID = 50226-88-07	3	N	2905.17		
CMS-SPMD4-S-01	MOD 1613B				1	0.0	Login ID = 50226-88-07	3	N			
CMS-SPMD4-S-01	MOD 1613B				1	0.0	Login ID = 50226-88-07	3	N			
CMS-SPMD3-W-02	MOD 1613B	0.92	5.00		1	0.0	Login ID = 50226-88-09	3	N	79.38	U	
CMS-SPMD3-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-09	3	N			
CMS-SPMD3-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-09	3	N			
CMS-SPMD3-W-01	MOD 1613B	0.95	5.00		1	0.0	Login ID = 50226-88-08	3	N	116.52	U	
CMS-SPMD3-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-08	3	N			
CMS-SPMD3-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-08	3	N			
CMS-SPMD3-S-01	MOD 1613B	13.51	5.00		10	0.0	Login ID = 50226-88-10	3	N	47944.99		1:10 Dilution
CMS-SPMD3-S-01	MOD 1613B				10	0.0	Login ID = 50226-88-10	3	N			
CMS-SPMD3-S-01	MOD 1613B				10	0.0	Login ID = 50226-88-10	3	N			
CMS-SPMD2-W-02	MOD 1613B	1.58	5.00		1	0.0	Login ID = 50226-88-12	3	N	86.93	UJ	
CMS-SPMD2-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-12	3	N			
CMS-SPMD2-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-12	3	N			
CMS-SPMD2-W-01	MOD 1613B	6.03	5.00		1	0.0	Login ID = 50226-88-11	3	N	551.95	J	
CMS-SPMD2-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-11	3	N			
CMS-SPMD2-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-11	3	N			
CMS-SPMD2-S-01	MOD 1613B	13.92	5.00		10	0.0	Login ID = 50226-88-13	3	N	46922.48		1:10 Dilution
CMS-SPMD2-S-01	MOD 1613B				10	0.0	Login ID = 50226-88-13	3	N			
CMS-SPMD2-S-01	MOD 1613B				10	0.0	Login ID = 50226-88-13	3	N			
CMS-SPMD1-W-02	MOD 1613B	2.92	5.00		1	0.0	Login ID = 50226-88-15	3	N	13.21	UJ	
CMS-SPMD1-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-15	3	N			
CMS-SPMD1-W-02	MOD 1613B				1	0.0	Login ID = 50226-88-15	3	N			
CMS-SPMD1-W-01	MOD 1613B	4.95	5.00		1	0.0	Login ID = 50226-88-14	3	N	154.36	UJ	
CMS-SPMD1-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-14	3	N			

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE	ANAL_DATE
CMS-SPMD1-W-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD1-W-01	85508-50-5	71		PCT_REC		50971-19	BCO	50971-19-14	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-S-01	DIOXIN	2,3,7,8-TCDD	CMS-SPMD1-S-01	1746-01-6	16.50		PG/SAMPLE		50971-19	BCO	50971-19-16	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-S-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SPMD1-S-01	76523-40-5	59		PCT_REC		50971-19	BCO	50971-19-16	06-Jul-05	12-Jul-05	29-Jul-05
CMS-SPMD1-S-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SPMD1-S-01	85508-50-5	84		PCT_REC		50971-19	BCO	50971-19-16	06-Jul-05	12-Jul-05	29-Jul-05
50971-19-21	DIOXIN	2,3,7,8-TCDD	50971-19-21	1746-01-6	0.94	U	PG/SAMPLE		50971-19	BCO	50971-19-21		12-Jul-05	28-Jul-05
50971-19-21	DIOXIN	13C-2,3,7,8-TCDD	50971-19-21	76523-40-5	54		PCT_REC		50971-19	BCO	50971-19-21		12-Jul-05	28-Jul-05
50971-19-20	DIOXIN	2,3,7,8-TCDD	50971-19-20	1746-01-6	110		PCT_REC		50971-19	BCO	50971-19-20		12-Jul-05	28-Jul-05
50971-19-20	DIOXIN	13C-2,3,7,8-TCDD	50971-19-20	76523-40-5	29		PCT_REC		50971-19	BCO	50971-19-20		12-Jul-05	28-Jul-05
50971-19-19	DIOXIN	2,3,7,8-TCDD	50971-19-19	1746-01-6	7.56		PG/SAMPLE		50971-19	BCO	50971-19-19	06-Jul-05	12-Jul-05	29-Jul-05
50971-19-19	DIOXIN	13C-2,3,7,8-TCDD	50971-19-19	76523-40-5	67		PCT_REC		50971-19	BCO	50971-19-19	06-Jul-05	12-Jul-05	29-Jul-05
50971-19-19	DIOXIN	37Cl-2,3,7,8-TCDD	50971-19-19	85508-50-5	101		PCT_REC		50971-19	BCO	50971-19-19	06-Jul-05	12-Jul-05	29-Jul-05
50971-19-18	DIOXIN	2,3,7,8-TCDD	50971-19-18	1746-01-6	83.37		PG/SAMPLE		50971-19	BCO	50971-19-18	06-Jul-05	12-Jul-05	29-Jul-05
50971-19-18	DIOXIN	13C-2,3,7,8-TCDD	50971-19-18	76523-40-5	46		PCT_REC		50971-19	BCO	50971-19-18	06-Jul-05	12-Jul-05	29-Jul-05
50971-19-18	DIOXIN	37Cl-2,3,7,8-TCDD	50971-19-18	85508-50-5	74		PCT_REC		50971-19	BCO	50971-19-18	06-Jul-05	12-Jul-05	29-Jul-05

NSAMPLE	METHOD	MDL	IDL	CRDL_CRQL	DIL_FACTOR	PCT_MOIST	COMMENTS	DVTIER	LAB_QC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-SPMD1-W-01	MOD 1613B				1	0.0	Login ID = 50226-88-14	3	N			
CMS-SPMD1-S-01	MOD 1613B	1.62	5.00		1	0.0	Login ID = 50226-88-16	3	N	16.50	U	
CMS-SPMD1-S-01	MOD 1613B				1	0.0	Login ID = 50226-88-16	3	N			
CMS-SPMD1-S-01	MOD 1613B				1	0.0	Login ID = 50226-88-16	3	N			
50971-19-21	MOD 1613B	0.94	5.00		1			3	MB			
50971-19-21	MOD 1613B				1			3	MB			
50971-19-20	MOD 1613B	0 10	5.00		1	0.0		3	LCS			
50971-19-20	MOD 1613B				1	0 0		3	LCS			
50971-19-19	MOD 1613B	0.74	5.00		1	0.0	Login ID = 50226-88-18, Unexposed SPMD Blank	3	SB	7.56	U	
50971-19-19	MOD 1613B				1	0.0	Login ID = 50226-88-18, Unexposed SPMD Blank	3	SB			
50971-19-19	MOD 1613B				1	0.0	Login ID = 50226-88-18, Unexposed SPMD Blank	3	SB			
50971-19-18	MOD 1613B	1.37	5.00		1	0.0	Login ID = 50226-88-19, SPMD Trip Blank	3	TB	83.37		
50971-19-18	MOD 1613B				1	0.0	Login ID = 50226-88-19, SPMD Trip Blank	3	TB			
50971-19-18	MOD 1613B				1	0 0	Login ID = 50226-88-19, SPMD Trip Blank	3	TB			

Co-Located Sediment

DIOXIN/FURAN SEDIMENT QA/QC SUMMARY
QC Batch 50971-29

PROJECT:	USACE NAE Delivery Order #13 Centredale
PARAMETER:	2,3,7,8-TCDD by High Resolution Mass Spectrometry (HRMS)
LABORATORY:	Battelle, Columbus, OH
MATRIX:	Sediment
SAMPLE CUSTODY:	Five sediment samples were received at Battelle Columbus on June 7, 2005. Samples were received in good condition and the cooler temperature upon receipt was 1.0°C. The sediments were processed in QC Batch 50971-29.

QA/QC MEASUREMENT PERFORMANCE CRITERIA:

	Reference Method	Blank	Surrogate Recovery	LCS/MS Recovery	SRM % Diff.	MS/MSD Replicate Relative Precision	Achieved RL (pg/g dry)	Project Goals [c] (pg/g dry)
Dioxin/ Furan/	L-23 Battelle SOP ASAT.II-001-02	<5× MDL, or associated samples > 10x blank values	25-150% Recovery	*LCS*: Method 1613B, Table 6 OPR[a] *MS: MS:* 50-120% Recovery [b]	≤30% PD[b]	≤30% RPD[b, d]	TCDD: 0.54 – 0.56 (2.56 for 1:5 dilution)	TCDD: 0.008 (ECO) – 0.0684 (HH)

[a] Method 1613B, Table 6 OPR requirements documented on LCS summary report table.
[b] Certified values must be >5× the MDL.
[c] Certified values must be >5× the MDL.
[d] *Sample replicate precision:* concentrations in sample replicate must be >10× the MDL.

METHOD: Sediment samples were processed and analyzed for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (TCDD) following general procedures in EPA Method 1613 as outlined in the Final Quality Assurance Project Plan Addendum 3, Lyman Mill Pond Sediment Investigation, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island (March 2005).

Sample Preparation – The five samples were processed in BATCH 50971-29. Aliquots of each sediment sample were weighed into individual jars and mixed with Hydromatrix drying agent. Approximately 10 g wet weight of each sediment sample was used. The five samples plus five QC samples were prepared for TCDD. The sediment/Hydromatrix mixtures were spiked with $^{13}C_{12}$-labeled TCDD internal standard solution. Matrix spike, matrix spike duplicate, and the laboratory control spike (LCS) samples were spiked with native TCDD at this time. The sediment /Hydromatrix mixtures were placed into Accelerated Solvent Extraction (ASE) cells. The samples were ASE extracted using methylene chloride. Each extract went through gel permeation chromatography (GPC) cleanup then was spiked with 2,3,7,8-TCDD-$^{37}Cl_4$ cleanup standard for monitoring recovery of analytes through the cleanup procedures. Each extract was then processed through acid/base silica and carbon cleanup columns. The sediment extracts were spiked with 1,2,3,4-TCDD-$^{13}C_{12}$ and 1,2,3,7,8,9-HxCDD-$^{13}C_{12}$ recovery standard and concentrated to a final sample volume of 20 µL.

PCDD/PCDF Analysis – Each extract was analyzed by gas chromatography/high

resolution mass spectrometry (GC/HRMS) in the selected ion-monitoring mode at a resolution of 10,000 or greater. A ZB-5, or equivalent, column was used for initial analysis of TCDD.

The following revisions to Method 1613 as well as several items to note specifically related to these analyses are summarized below:

1. Quality control samples processed with this batch of samples included one method blank, one LCS (OPR), one sediment standard reference material, one matrix spike, and one matrix spike duplicate.

2. The GC/HRMS instrumentation was calibrated for PCDD/PCDF at levels specified in Method 1613 with two additional calibration standards at concentrations equivalent to $^{1}/_{10}$ and ½ the level of Method 1613's lowest calibration point. The CS-0.5 is used to calculate the reporting limit and the CS-0.1 is used mainly as a sensitivity check. The calibration range corresponds to the following levels in the samples assuming an average sample dry weight of 9.3475 g of soil and a final sample volume of 20 µL: 0.11 to 430 pg/g dry for TCDD.

Any additional minor revisions to Method 1613 are fully documented in the analytical record.

Upon initial analysis of the re-extracted samples, it was found that TCDD peak areas were above the level of the calibration curve peak areas in sample CMS-SD-5002-0005-01; therefore, sample CMS-SD-5002-0005-01 was diluted 1:5 and re-analyzed. The results for TCDD for this sample are reported from the dilution analysis.

HOLDING TIMES:

The samples were prepared for analysis in one analytical batch (SDG 50971-29). Samples were extracted within 11 weeks of receipt at the laboratory and completely analyzed within 9 days of extraction.

Batch	Extraction Date	Analysis Date
50971-29	08/22/2005	08/26-08/30/2005

DETECTION LIMITS:

TCDD results are reported relative to the sample-specific reporting limits (also referred to as QL in the QAPP) for that compound. The sample-specific RL is based on the CS-0.5 calibration standard and adjusted for sample specific processing factors and volumes, as follow:

RL = (Concentration in CS-0.5 Std. × final extract volume × dilution factors)/ Sample size

Where,
Concentration in low standard = 0.25 pg/µL
Final Extract Volume = 20 µL
Dilution Factor = documented in project file
Sample Size = approximately 9.3-g dry

Achieved RLs did not meet project detection limit goals for TCDD. As noted in the QAPP, the project detection limit goals are provided for perspective rather than as a requirement for the analytical methods.

BLANKS:

One laboratory method blank was processed with the analytical batch. Blanks are

analyzed to ensure that the sample extraction and analysis methods were free of contamination.

50971-29– TCDD was detected at a trace level; however, the level detected was below the reporting level.

LABORATORY CONTROL SAMPLE: A laboratory control sample (LCS or OPR) was prepared with the analytical batch. The percent recovery of target compound was calculated to measure data quality in terms of accuracy.

50971-29– The LCS sample met the criteria found in Table 6 of Method 1613, Revision B for TCDD.

MATRIX SPIKES: One matrix spike (MS)/matrix spike duplicate (MSD) sample set was prepared with the batch to measure data quality in terms of accuracy and precision. The MS and MSD were fortified with the target compound to monitor data quality in terms of accuracy and precision.

50971-29– TCDD was not spiked >5x background; therefore, the alternative percent recoveries and the RPD were calculated. The alternative recoveries were within the 50-120% limit and the alternative RPD between duplicates for TCDD was found to be 14%.

INTERNAL STANDARDS: One internal standard was added to each sample prior to processing, one standard was added after extraction and prior to sample cleanup. Internal standard recoveries were calculated to measure data quality in terms of accuracy (sample processing efficiency).

50971-29– Recoveries of internal standards were within 25-150% for all analytes in all samples.

SRM: A standard reference material (Wellington DX-2) was prepared with the analytical batch. The percent difference (PD) between detected concentrations and certified values was calculated to measure data quality in terms of accuracy.

50971-29– TCDD was found to be within the limit of 30% difference from the certified value.

REFERENCES:

Battelle 2005. Final Quality Assurance Project Plan Addendum 3, Lyman Mill Pond Sediment Investigation, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island (March 2005).

QUALITY ASSURANCE STATEMENT

Project Title: USACE New England District, Centredale Manor Task RI-13 SPMD Sediments Samples (SDG 50971-19): TCDD Data

Project Number: G487002-RI13B2

Description of Data: SPMD Sediment Samples for TCDD

Description of audit and review activities:
1)Reviewed sample preparation Laboratory Record Books (LRB). Tracked COC from sample receipt to analytical injection. Reviewed standard/spike preparation records. Resolved all resulting LRB numbers (i.e. sample tracking numbers) with analytical designations. Reviewed data package for data recording consistent with the QAPP and department SOPs.

2)Reviewed analytical (HRMS) data. Reviewed all hand-entered parameters (e.g. sample masses, sample names, calibration curve date, etc) for each analytical run. Reviewed calibrations results to ensure that Relative Response Factors (RRF) were within the limit of calibration RRF. Reviewed 10% data transfer to spreadsheets.

3)Reviewed spreadsheets. Accessed e-file of excel spreadsheets and reviewed formula and relative and absolute cell addresses to ensure accurate data transposition.

4)Reviewed report. Ensured report accurately reflected raw data and resulting spreadsheets.

Description of outstanding issues or deficiencies which may affect data quality:
1) Minor QC issues were submitted to the analytical staff for correction, no outstanding issues present.

Eiko Weller

Eiko Weller
Quality Assurance Specialist
Measurement and Data Analysis Sciences
Battelle

09/02/05
Date

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE	ANAL_DATE
CMS-SD-5005-0005-01	DIOXIN	2,3,7,8-TCDD	CMS-SD-5005-0005-01	1746-01-6	437.28		PG/G DRY		50971-29	BCO	50971-29-06	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5005-0005-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5005-0005-01	76523-40-5	68		PCT_REC		50971-29	BCO	50971-29-06	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5005-0005-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5005-0005-01	85508-50-5	94		PCT_REC		50971-29	BCO	50971-29-06	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5004-0005-01	DIOXIN	2,3,7,8-TCDD	CMS-SD-5004-0005-01	1746-01-6	445.58		PG/G DRY		50971-29	BCO	50971-29-05	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5004-0005-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5004-0005-01	76523-40-5	64		PCT_REC		50971-29	BCO	50971-29-05	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5004-0005-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5004-0005-01	85508-50-5	90		PCT_REC		50971-29	BCO	50971-29-05	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01 MSD	DIOXIN	2,3,7,8-TCDD	CMS-SD-5003-0005-01 MSD	1746-01-6	771	~	PCT_REC		50971-29	BCO	50971-29-08	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01 MSD	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5003-0005-01 MSD	76523-40-5	70		PCT_REC		50971-29	BCO	50971-29-08	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01 MSD	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5003-0005-01 MSD	85508-50-5	107		PCT_REC		50971-29	BCO	50971-29-08	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01 MS	DIOXIN	2,3,7,8-TCDD	CMS-SD-5003-0005-01 MS	1746-01-6	0	~	PCT_REC		50971-29	BCO	50971-29-07	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01 MS	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5003-0005-01 MS	76523-40-5	61		PCT_REC		50971-29	BCO	50971-29-07	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01 MS	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5003-0005-01 MS	85508-50-5	100		PCT_REC		50971-29	BCO	50971-29-07	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01	DIOXIN	2,3,7,8-TCDD	CMS-SD-5003-0005-01	1746-01-6	1189.83		PG/G DRY		50971-29	BCO	50971-29-04	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5003-0005-01	76523-40-5	72		PCT_REC		50971-29	BCO	50971-29-04	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5003-0005-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5003-0005-01	85508-50-5	107		PCT_REC		50971-29	BCO	50971-29-04	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5002-0005-01	DIOXIN	2,3,7,8-TCDD	CMS-SD-5002-0005-01	1746-01-6	5069.36	D	PG/G DRY		50971-29	BCO	50971-29-03	7-Jun-05	22-Aug-05	30-Aug-05
CMS-SD-5002-0005-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5002-0005-01	76523-40-5	72	D	PCT_REC		50971-29	BCO	50971-29-03	7-Jun-05	22-Aug-05	30-Aug-05
CMS-SD-5002-0005-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5002-0005-01	85508-50-5	149	D	PCT_REC		50971-29	BCO	50971-29-03	7-Jun-05	22-Aug-05	30-Aug-05
CMS-SD-5001-0005-01	DIOXIN	2,3,7,8-TCDD	CMS-SD-5001-0005-01	1746-01-6	2.58		PG/G DRY		50971-29	BCO	50971-29-02	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5001-0005-01	DIOXIN	13C-2,3,7,8-TCDD	CMS-SD-5001-0005-01	76523-40-5	60		PCT_REC		50971-29	BCO	50971-29-02	7-Jun-05	22-Aug-05	26-Aug-05
CMS-SD-5001-0005-01	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-SD-5001-0005-01	85508-50-5	84		PCT_REC		50971-29	BCO	50971-29-02	7-Jun-05	22-Aug-05	26-Aug-05
50971-29-11	DIOXIN	2,3,7,8-TCDD	50971-29-11	1746-01-6	0.26		PG/G DRY		50971-29	BCO	50971-29-11		22-Aug-05	26-Aug-05
50971-29-11	DIOXIN	13C-2,3,7,8-TCDD	50971-29-11	76523-40-5	62		PCT_REC		50971-29	BCO	50971-29-11		22-Aug-05	26-Aug-05
50971-29-11	DIOXIN	37Cl-2,3,7,8-TCDD	50971-29-11	85508-50-5	76		PCT_REC		50971-29	BCO	50971-29-11		22-Aug-05	26-Aug-05
50971-29-10	DIOXIN	2,3,7,8-TCDD	50971-29-10	1746-01-6	117		PCT_REC		50971-29	BCO	50971-29-10		22-Aug-05	26-Aug-05
50971-29-10	DIOXIN	13C-2,3,7,8-TCDD	50971-29-10	76523-40-5	65		PCT_REC		50971-29	BCO	50971-29-10		22-Aug-05	26-Aug-05
50971-29-10	DIOXIN	37Cl-2,3,7,8-TCDD	50971-29-10	85508-50-5	94		PCT_REC		50971-29	BCO	50971-29-10		22-Aug-05	26-Aug-05
50971-29-09	DIOXIN	2,3,7,8-TCDD	50971-29-09	1746-01-6	29.0		PCT_DIFF		50971-29	BCO	50971-29-09		22-Aug-05	26-Aug-05
50971-29-09	DIOXIN	13C-2,3,7,8-TCDD	50971-29-09	76523-40-5	64		PCT_REC		50971-29	BCO	50971-29-09		22-Aug-05	26-Aug-05
50971-29-09	DIOXIN	37Cl-2,3,7,8-TCDD	50971-29-09	85508-50-5	95		PCT_REC		50971-29	BCO	50971-29-09		22-Aug-05	26-Aug-05

NSAMPLE	METHOD	MDL	IDL	CRDL_CRQL	DIL_FACTOR	PCT_MOIST	COMMENTS	DVTIER	LAB_QC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-SD-5005-0005-01	MOD 1613B	0.13	0.56		1	12.32	Login ID = 50226-86-06	3	N	437.28		
CMS-SD-5005-0005-01	MOD 1613B				1	12.32	Login ID = 50226-86-06	3	N			
CMS-SD-5005-0005-01	MOD 1613B				1	12.32	Login ID = 50226-86-06	3	N			
CMS-SD-5004-0005-01	MOD 1613B	0.25	0.57		1	14.32	Login ID = 50226-86-05	3	N	445.58		
CMS-SD-5004-0005-01	MOD 1613B				1	14.32	Login ID = 50226-86-05	3	N			
CMS-SD-5004-0005-01	MOD 1613B				1	14.32	Login ID = 50226-86-05	3	N			
CMS-SD-5003-0005-01 MSD	MOD 1613B	0.27	0.54		1	6.92	Login ID = 50226-86-04	3	MSD			
CMS-SD-5003-0005-01 MSD	MOD 1613B				1	6.92	Login ID = 50226-86-04	3	MSD			
CMS-SD-5003-0005-01 MSD	MOD 1613B				1	6.92	Login ID = 50226-86-04	3	MSD			
CMS-SD-5003-0005-01 MS	MOD 1613B	0.21	0.53		1	6.92	Login ID = 50226-86-04	3	MS			
CMS-SD-5003-0005-01 MS	MOD 1613B				1	6.92	Login ID = 50226-86-04	3	MS			
CMS-SD-5003-0005-01 MS	MOD 1613B				1	6.92	Login ID = 50226-86-04	3	MS			
CMS-SD-5003-0005-01	MOD 1613B	0.24	0.54		1	6.92	Login ID = 50226-86-04	3	N	1189.83		
CMS-SD-5003-0005-01	MOD 1613B				1	6.92	Login ID = 50226-86-04	3	N			
CMS-SD-5003-0005-01	MOD 1613B				1	6.92	Login ID = 50226-86-04	3	N			
CMS-SD-5002-0005-01	MOD 1613B	1.02	2.56		5	5.5	Login ID = 50226-86-03	3	N	5069.36		1:5 DILUTION
CMS-SD-5002-0005-01	MOD 1613B				5	5.5	Login ID = 50226-86-03	3	N			
CMS-SD-5002-0005-01	MOD 1613B				5	5.5	Login ID = 50226-86-03	3	N			
CMS-SD-5001-0005-01	MOD 1613B	0.08	0.56		1	12.12	Login ID = 50226-86-02	3	N	2.58		
CMS-SD-5001-0005-01	MOD 1613B				1	12.12	Login ID = 50226-86-02	3	N			
CMS-SD-5001-0005-01	MOD 1613B				1	12.12	Login ID = 50226-86-02	3	N			
50971-29-11	MOD 1613B	0.09	0.54		1	7.55	Login ID = 50171-49-02	3	MB			
50971-29-11	MOD 1613B				1	7.55	Login ID = 50171-49-02	3	MB			
50971-29-11	MOD 1613B				1	7.55	Login ID = 50171-49-02	3	MB			
50971-29-10	MOD 1613B	0.61	0.50		1	0.00	Login ID = 50171-49-02	3	LCS			
50971-29-10	MOD 1613B				1	0.00	Login ID = 50171-49-02	3	LCS			
50971-29-10	MOD 1613B				1	0.00	Login ID = 50171-49-02	3	LCS			
50971-29-09	MOD 1613B	0.23	0.51		1	2.93	Login ID = 50095-86-02,03	3	SRM			
50971-29-09	MOD 1613B				1	2.93	Login ID = 50095-86-02,03	3	SRM			
50971-29-09	MOD 1613B				1	2.93	Login ID = 50095-86-02,03	3	SRM			

Groundwater

DIOXIN/FURAN GROUNDWATER QA/QC SUMMARY
QC Batches 50971-20 and 50971-35

PROJECT:	USACE New England District Delivery Order #13 Centredale
PARAMETER:	Dioxin/Furan by High Resolution Mass Spectrometry (HRMS)
LABORATORY:	Battelle, Columbus, OH
MATRIX:	Groundwater
SAMPLE CUSTODY:	Four jars of one groundwater sample were received at Battelle Columbus on July 6, 2005 in one cooler. Sample jars were received in good condition and the cooler temperature upon receipt was 2.3°C.

QA/QC MEASUREMENT PERFORMANCE CRITERIA (MPC):

	Reference Method	Blank	Surrogate Recovery	LCS/MS/ MSD Recovery	SRM % Diff.	MS/MSD Replicate Relative Precision	Achieved RL (pg/L)[d]	Project Goals [c] (pg/L)
Dioxin/ Furan	L-23 Battelle SOP ASAT.II-001-02	<5× MDL, or associated samples >5× blank values (>10× blank values for OCDD, OCDF and totals)	25-150% Recovery	*LCS*: Method 1613B, Table 6 OPR[a] *MS/MSD:* 50-120% Recovery [b]	Not appli-cable	≤30% RPD[b]	Tetras: 0.44-9.70 Penta-Hepta: 0.70-47.70 Octas: 1.32-41.10	Tetras : 10.00 Penta-Hepta: 50 Octas: 100

[a] Method 1613B, Table 6 OPR requirements documented on LCS summary report table.
[b] Analyte concentration in MS/MSD must be >5× background concentration to be used for data quality assessment.
[c] Based on Chronic Ambient Water Quality Criteria
[d] achieved RLs from batch 50971-35.

METHOD: Groundwater samples were processed and analyzed for seventeen 2,3,7,8-substituted polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF) following general procedures in EPA Method 1613, Revision B as outlined in the Final Quality Assurance Project Plan Addendum 3, Lyman Mill Pond Sediment Investigation, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island (March 2005).

Sample Preparation – The groundwater sample was processed in Batches 50971-20 (original extraction) and 50971-35 (re-extraction). The water sample jars were visually inspected for solids and determined to contain less than 1 percent solids and, therefore, did not require filtering.

For the samples in Batch 50971-20, approximately 1 L of the one groundwater sample, the laboratory method blank, the laboratory control spike (LCS or OPR), the matrix spike (MS), and the matrix spike duplicate (MSD) were transferred into individual 2-L muffled separatory funnels, and the internal standard was added to each sample. Matrix spike standard was added to the LCS, MS, and MSD samples. Each separatory funnel had 60 mL of methylene chloride added to it, each was shaken for two minutes, and

METHOD (cont):

then the methylene chloride layer was drained through 10-15 g of sodium sulfate into a round bottom (RB) flask. This process was repeated two times. Each extract went through gel permeation chromatography (GPC) cleanup then was spiked with 2,3,7,8-TCDD-$^{37}Cl_4$ cleanup standard for monitoring recovery of analytes through the cleanup procedures. Each extract was then processed through acid/base silica and carbon cleanup columns. The water extracts were spiked with 1,2,3,4-TCDD-$^{13}C_{12}$ and 1,2,3,7,8,9-HxCDD-$^{13}C_{12}$ recovery standard and concentrated to a final sample volume of 20 µL.

A GPC malfunction occurred during the processing of batch 50971-20. This malfunction caused less sample extract to be collected for each sample after running through the GPC column. Also, upon analysis of batch 50971-20 it was found that several internal standards, including$^{13}C_{12}$-2,3,7,8-TCDD and the cleanup standard, were either missing from or had very low recoveries in the method blank and LCS extracts. Tests were conducted on laboratory reagents and procedures prior to the re-extraction of the sample in batch 50971-35 to determine the source of TCDD loss.

For the samples in Batch 50971-35, approximately 500 mL of the remaining volume of the one groundwater sample, the laboratory method blank and the LCS /OPR were transferred into individual 2-L muffled separatory funnels, and the internal standard was added to each sample. Matrix spike standard was added to the LCS sample. Each separatory funnel had 60 mL of methylene chloride added to it, each was shaken for two minutes, and then the methylene chloride layer was drained through 10-15 g of sodium sulfate into a round bottom (RB) flask. This process was repeated two times. Each extract went was spiked with 2,3,7,8-TCDD-$^{37}Cl_4$ cleanup standard for monitoring recovery of analytes through the cleanup procedures. Each extract was then processed through acid/base washes, acid/base silica, and carbon cleanup columns. The water extracts were spiked with 1,2,3,4-TCDD-$^{13}C_{12}$ and 1,2,3,7,8,9-HxCDD-$^{13}C_{12}$ recovery standard and concentrated to a final sample volume of 10 µL.

The final 2,3,7,8-TCDD results varied greatly (approximately 10 fold) from SDG 50971-20 to SDG 50971-35. Each sample aliquot used for analysis was taken from separate sample jars. Each of the sample jars contained varying levels of particles which is believed to help account for the varying levels of 2,3,7,8-TCDD. Data for both batches are being reported.

PCDD/PCDF Analysis – Each extract was analyzed by gas chromatography/high resolution mass spectrometry (GC/HRMS) in the selected ion-monitoring mode at a resolution of 10,000 or greater. A DB5 column, or equivalent, was used for initial analysis of the seventeen 2,3,7,8-PCDD/PCDF.

The ending calibration for batch 50971-35 contained two labeled analytes, $^{13}C_{12}$-1,2,3,7,8-PeCDF and $^{13}C_{12}$-2,3,4,7,8-PeCDF, that did not meet the Method 1613, Revision B requirements. The natives that correspond to these internal standards meet the Method criteria and were not found in the samples. There is no impact on the data for the two native analytes.

The following revisions to Method 1613 as well as several items to note specifically related to these analyses are summarized below:

1. Quality control samples processed with batch 50971-20 included one method blank, one LCS, one MS, and one MSD. Quality control samples processed with batch 50971-35 included one method blank and one LCS.

2. The GC/HRMS instrumentation was calibrated for PCDD/PCDF at levels specified in Method 1613 two additional calibration standards at concentrations equivalent to $^{1}/_{10}$ and ½ the level of Method 1613's lowest calibration point. The calibration range corresponds to the following levels in the samples assuming an average sample volume of 1 L and a final sample volume of 20 µL: 1.0 to 4,000 pg/L for tetra compounds, 5 to 20,000 pg/L for penta through hepta compounds, and 10 to 40,000 pg/L for octa compounds. The calibration range for samples with an average sample volume of 500 mL and a final sample volume of 10 µL is the same as listed above.

Any additional minor revisions to Method 1613 are fully documented in the analytical record.

HOLDING TIMES: Samples were prepared for analysis in two analytical batches. For batch 50971-20, samples were extracted within 6 days of receipt at the laboratory and analyzed within 3 weeks of extraction. For batch 50971-35, samples were extracted within 6 weeks of receipt at the laboratory and analyzed within 2 weeks of extraction.

Batch	Extraction Date	Analysis Date
50971-20	07/12/2005	07/27-28/2005
50971-35	08/22/2005	08/30/2005

DETECTION LIMITS: PCDD/PCDF results are reported relative to the sample-specific reporting limits (also referred to as QL in the QAPP) for that compound. The sample-specific RL is based on the CS-0.5 calibration standard and adjusted for sample specific processing factors and volumes, as follow:

RL = (Concentration in CS-0.5 Std. × final extract volume × dilution factors)/ Sample size

Where,
Concentration in low standard = 0.25 pg/µL
Final Extract Volume = 20 µL
Dilution Factor = documented in project file
Sample Size = approximately 1 L

Achieved RLs did not meet project detection limit goals for PCDD/PCDF. As noted in the QAPP, the project detection limit goals are provided for perspective rather than as a requirement for the analytical methods. If detection limits cannot be achieved, this will be addressed in the uncertainty discussions in the risk assessment.

Analyte peaks which did not meet all identification criteria are reported as estimated maximum possible concentrations (EMPC) and flagged "K".

BLANKS: One laboratory method blank was processed with each analytical batch. Blanks are analyzed to ensure that the sample extraction and analysis methods were free of contamination.

50971-20 – The internal standard recoveries were too low for dioxins to accurately determine these analytes in the method blank. The data set was reprocessed.

50971-35 – The method blank was found to be free of all analytes, except for a trace level of non-2,3,7,8-tetra-dioxin.

DIOXIN/FURAN GROUNDWATER QA/QC SUMMARY
QC Batches 50971-20 and 50971-35

LABORATORY CONTROL SAMPLE:

One LCS was prepared with each analytical batch. The percent recoveries of target compounds were calculated to measure data quality in terms of accuracy.

50971-20 –The LCS sample met the criteria found in Table 6 of Method 1613, Revision B for PCDD/PCDF for all native analytes except 2,3,7,8-TCDD and 1,2,3,7,8,9-HxCDD. Several $^{13}C_{12}$-labeled analytes were poorly recovered as discussed previously.

50971-35 –The LCS sample met the criteria found in Table 6 of Method 1613, Revision B for PCDD/PCDF, except 1,2,3,7,8,9-HxCDF which was slightly above the limit.

MATRIX SPIKES:

One MS/MSD sample set was prepared with batch 50971-20. The percent recoveries of target compounds in the MS and MSD were calculated to measure data quality in terms of accuracy; the relative percent difference (RPD) between MS and MSD percent recoveries were calculated to measure data quality in terms of precision.

50971-20 – 2,3,7,8-TCDD was outside the QC limits in both the MS and MSD. The amount of 2,3,7,8-TCDD spiked was not > 5x the background level and the $^{13}C_{12}$-2,3,7,8-TCDD recovery was low in both the MS and MSD.

The RPD between MS/MSD percent recoveries also were within the ≤30% RPD for all except 2,3,7,8-TCDD. The analytes that were within the criteria ranged from 0 to 5%.

INTERNAL STANDARDS:

Fifteen internal standards were added to each sample prior to processing, one standard was added after extraction and prior to sample cleanup. Internal standard recoveries were calculated to measure data quality in terms of accuracy (sample processing efficiency).

50971-20 – Two to seven internal standards failed in all samples except CMS-GW-MW05S-05.

50971-35 – All internal standard recoveries were within 25-150%.

REFERENCES:

Final Quality Assurance Project Plan Addendum 3, Lyman Mill Pond Sediment Investigation, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island (March 2005).

QUALITY ASSURANCE STATEMENT

Project Title: **USACE New England District, Centredale Manor Task RI-13 SPMD Groundwater Samples (SDG 50971-20 and 50971-35): PCDD/PCDF Data**

Project Number: **G487002-RI13B2**

Description of Data: **SPMD Groundwater Samples for PCDD/PCDF Data**

Description of audit and review activities:
1)Reviewed sample preparation Laboratory Record Books (LRB). Tracked COC from sample receipt to analytical injection. Reviewed standard/spike preparation records. Resolved all resulting LRB numbers (i.e. sample tracking numbers) with analytical designations. Reviewed data package for data recording consistent with the QAPP and department SOPs.

2)Reviewed analytical (HRMS) data. Reviewed all hand-entered parameters (e.g. sample masses, sample names, calibration curve date, etc) for each analytical run. Reviewed calibrations results to ensure that Relative Response Factors (RRF) were within the limit of calibration RRF. Reviewed 10% data transfer to spreadsheets.

3)Reviewed spreadsheets. Accessed e-file of excel spreadsheets and reviewed formula and relative and absolute cell addresses to ensure accurate data transposition.

4)Reviewed report. Ensured report accurately reflected raw data and resulting spreadsheets.

Description of outstanding issues or deficiencies which may affect data quality:
1) Minor QC issues were submitted to the analytical staff for correction, no outstanding issues present.

Eiko Weller

Eiko Weller
Quality Assurance Specialist
Measurement and Data Analysis Sciences
Battelle

9-12-05
Date

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE	ANAL_DATE	METHOD
CMS-GW-MW05S-05	DIOXIN	1,2,3,4,6,7,8-HpCDD	CMS-GW-MW05S-05	35822-46-9	2.88		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,4,6,7,8-HpCDF	CMS-GW-MW05S-05	67562-39-4	1.41		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,4,7,8,9-HpCDF	CMS-GW-MW05S-05	55673-89-7	1.49	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,4,7,8-HxCDD	CMS-GW-MW05S-05	39227-28-6	2.38	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,4,7,8-HxCDF	CMS-GW-MW05S-05	70648-26-9	3.51	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,6,7,8-HxCDD	CMS-GW-MW05S-05	57653-85-7	2.32	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,6,7,8-HxCDF	CMS-GW-MW05S-05	57117-44-9	3.38	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,7,8,9-HxCDD	CMS-GW-MW05S-05	19408-74-3	2.12	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,7,8,9-HxCDF	CMS-GW-MW05S-05	72918-21-9	3.92	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,7,8-PeCDD	CMS-GW-MW05S-05	40321-76-4	6.19		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	1,2,3,7,8-PeCDF	CMS-GW-MW05S-05	57117-41-6	8.02	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,4,6,7,8-HpCDD	CMS-GW-MW05S-05	109719-83-7	83		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,4,6,7,8-HpCDF	CMS-GW-MW05S-05	116843-09-5	87		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,4,7,8,9-HpCDF	CMS-GW-MW05S-05	109719-94-0	83		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,4,7,8-HxCDD	CMS-GW-MW05S-05	109719-80-4	70		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,4,7,8-HxCDF	CMS-GW-MW05S-05	114423-98-2	71		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,6,7,8-HxCDD	CMS-GW-MW05S-05	109719-81-5	79		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,6,7,8-HxCDF	CMS-GW-MW05S-05	116843-03-9	71		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,7,8,9-HxCDF	CMS-GW-MW05S-05	116843-04-0	70		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,7,8-PeCDD	CMS-GW-MW05S-05	109719-79-1	89		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-1,2,3,7,8-PeCDF	CMS-GW-MW05S-05	109719-77-9	103		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-2,3,4,6,7,8-HxCDF	CMS-GW-MW05S-05	116843-05-1	73		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-2,3,4,7,8-PeCDF	CMS-GW-MW05S-05	116843-02-8	102		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-2,3,7,8-TCDD	CMS-GW-MW05S-05	76523-40-5	69		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-2,3,7,8-TCDF	CMS-GW-MW05S-05	89059-46-1	80		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	13C-OCDD	CMS-GW-MW05S-05	114423-97-1	75		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	2,3,4,6,7,8-HxCDF	CMS-GW-MW05S-05	60851-34-5	3.47	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	2,3,4,7,8-PeCDF	CMS-GW-MW05S-05	57117-31-4	7.10	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	2,3,7,8-TCDD	CMS-GW-MW05S-05	1746-01-6	4144.76		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	2,3,7,8-TCDF	CMS-GW-MW05S-05	51207-31-9	1.82		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	37Cl-2,3,7,8-TCDD	CMS-GW-MW05S-05	85508-50-5	97		PCT_REC		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	OCDD	CMS-GW-MW05S-05	3268-87-9	16.53		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	OCDF	CMS-GW-MW05S-05	39001-02-0	4.50		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Hepta-Dioxins	CMS-GW-MW05S-05	37871-00-4	2.88		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Hepta-Furans	CMS-GW-MW05S-05	38998-75-3	1.41		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Hexa-Dioxins	CMS-GW-MW05S-05	34465-46-8	2.26	U	PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Hexa-Furans	CMS-GW-MW05S-05	55684-94-1	40.13		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Penta-Dioxins	CMS-GW-MW05S-05	36088-22-9	125.42		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Penta-Furans	CMS-GW-MW05S-05	30402-15-4	415.07		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Tetra-Dioxins	CMS-GW-MW05S-05	41903-57-5	4350.55		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B
CMS-GW-MW05S-05	DIOXIN	Total Tetra-Furans	CMS-GW-MW05S-05	55722-27-5	129.63		PG/L		50971-35	BCO	50971-35-29	6-Jul-05	22-Aug-05	30-Aug-05	MOD 1613B

NSAMPLE	MDL	IDL	CRDL_CRQL	DIL_FACTOR	PCT_MOIST	COMMENTS	DVTIER	LAB_QC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-GW-MW05S-05	2 08	25 00		1		Login ID = 50226-88-23	3	N	2.88		
CMS-GW-MW05S-05	1.25	25.00		1		Login ID = 50226-88-23	3	N	1.41		
CMS-GW-MW05S-05	1.49	25.00		1		Login ID = 50226-88-23	3	N	1.49	U	
CMS-GW-MW05S-05	2.38	25.00		1		Login ID = 50226-88-23	3	N	2.38	U	
CMS-GW-MW05S-05	3 51	25.00		1		Login ID = 50226-88-23	3	N	3.51	U	
CMS-GW-MW05S-05	2.32	25.00		1		Login ID = 50226-88-23	3	N	2.32	U	
CMS-GW-MW05S-05	3.38	25.00		1		Login ID = 50226-88-23	3	N	3.38	U	
CMS-GW-MW05S-05	2.12	25.00		1		Login ID = 50226-88-23	3	N	2.12	U	
CMS-GW-MW05S-05	3.92	25.00		1		Login ID = 50226-88-23	3	N	3.92	U	
CMS-GW-MW05S-05	2.84	25.00		1		Login ID = 50226-88-23	3	N	6.19		
CMS-GW-MW05S-05	8.02	25.00		1		Login ID = 50226-88-23	3	N	8.02	UJ	
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05	3.47	25 00		1		Login ID = 50226-88-23	3	N	3.47	U	
CMS-GW-MW05S-05	7.10	25.00		1		Login ID = 50226-88-23	3	N	7.10	UJ	
CMS-GW-MW05S-05	1.59	5.00		1		Login ID = 50226-88-23	3	N	4144.76		
CMS-GW-MW05S-05	0.70	5.00		1		Login ID = 50226-88-23	3	N	1.82		
CMS-GW-MW05S-05				1		Login ID = 50226-88-23	3	N			
CMS-GW-MW05S-05	3.97	50.00		1		Login ID = 50226-88-23	3	N	16.53		
CMS-GW-MW05S-05	3 39	50 00		1		Login ID = 50226-88-23	3	N	4 50		
CMS-GW-MW05S-05	2.08	25.00		1		Login ID = 50226-88-23	3	N	2.88	J	
CMS-GW-MW05S-05	1.36	25.00		1		Login ID = 50226-88-23	3	N	1.41	J	
CMS-GW-MW05S-05	2.26	25.00		1		Login ID = 50226-88-23	3	N	2 26	UJ	
CMS-GW-MW05S-05	3.55	25.00		1		Login ID = 50226-88-23	3	N	40.13	J	
CMS-GW-MW05S-05	2 84	25.00		1		Login ID = 50226-88-23	3	N	125.42	J	
CMS-GW-MW05S-05	7.55	25.00		1		Login ID = 50226-88-23	3	N	415.07	J	
CMS-GW-MW05S-05	1.59	5.00		1		Login ID = 50226-88-23	3	N	4350.55	J	
CMS-GW-MW05S-05	0 70	5.00		1		Login ID = 50226-88-23	3	N	129.63	J	

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE	ANAL_DATE	METHOD
50971-35-31	DIOXIN	1,2,3,4,6,7,8-HpCDD	50971-35-31	35822-46-9	30.84	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,4,6,7,8-HpCDF	50971-35-31	67562-39-4	39.98	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,4,7,8,9-HpCDF	50971-35-31	55673-89-7	35.87	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,4,7,8-HxCDD	50971-35-31	39227-28-6	25.69	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,4,7,8-HxCDF	50971-35-31	70648-26-9	36.37	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,6,7,8-HxCDD	50971-35-31	57653-85-7	30.36	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,6,7,8-HxCDF	50971-35-31	57117-44-9	38.69	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,7,8,9-HxCDD	50971-35-31	19408-74-3	25.02	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,7,8,9-HxCDF	50971-35-31	72918-21-9	47.70	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,7,8-PeCDD	50971-35-31	40321-76-4	31.08	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	1,2,3,7,8-PeCDF	50971-35-31	57117-41-6	20.43	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,4,6,7,8-HpCDD	50971-35-31	109719-83-7	73		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,4,6,7,8-HpCDF	50971-35-31	116843-09-5	62		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,4,7,8,9-HpCDF	50971-35-31	109719-94-0	63		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,4,7,8-HxCDD	50971-35-31	109719-80-4	87		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,4,7,8-HxCDF	50971-35-31	114423-98-2	88		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,6,7,8-HxCDD	50971-35-31	109719-81-5	58		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,6,7,8-HxCDF	50971-35-31	116843-03-9	59		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,7,8,9-HxCDF	50971-35-31	116843-04-0	65		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,7,8-PeCDD	50971-35-31	109719-79-1	62		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-1,2,3,7,8-PeCDF	50971-35-31	109719-77-9	86		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-2,3,4,6,7,8-HxCDF	50971-35-31	116843-05-1	71		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-2,3,4,7,8-PeCDF	50971-35-31	116843-02-8	77		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-2,3,7,8-TCDD	50971-35-31	76523-40-5	64		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-2,3,7,8-TCDF	50971-35-31	89059-46-1	79		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	13C-OCDD	50971-35-31	114423-97-1	74		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	2,3,4,6,7,8-HxCDF	50971-35-31	60851-34-5	42.01	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	2,3,4,7,8-PeCDF	50971-35-31	57117-31-4	16.68	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	2,3,7,8-TCDD	50971-35-31	1746-01-6	9.70	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	2,3,7,8-TCDF	50971-35-31	51207-31-9	9.39	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	37Cl-2,3,7,8-TCDD	50971-35-31	85508-50-5	93		PCT_REC		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	OCDD	50971-35-31	3268-87-9	41.10	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	OCDF	50971-35-31	39001-02-0	40.46	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Hepta-Dioxins	50971-35-31	37871-00-4	30.84	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Hepta-Furans	50971-35-31	38998-75-3	38.03	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Hexa-Dioxins	50971-35-31	34465-46-8	26.75	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Hexa-Furans	50971-35-31	55684-94-1	40.68	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Penta-Dioxins	50971-35-31	36088-22-9	31.08	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Penta-Furans	50971-35-31	30402-15-4	18.61	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Tetra-Dioxins	50971-35-31	41903-57-5	0.50	J	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-31	DIOXIN	Total Tetra-Furans	50971-35-31	55722-27-5	9.39	U	PG/L		50971-35	BCO	50971-35-31		22-Aug-05	30-Aug-05	MOD 1613B

NSAMPLE	MDL	IDL	CRDL_CRQL	DIL_FACTOR	PCT_MOIST	COMMENTS	DVTIER	LAB_QC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
50971-35-31	30.84	25.00		1			3	MB			
50971-35-31	39.98	25.00		1			3	MB			
50971-35-31	35.87	25.00		1			3	MB			
50971-35-31	25.69	25.00		1			3	MB			
50971-35-31	36.37	25.00		1			3	MB			
50971-35-31	30.36	25.00		1			3	MB			
50971-35-31	38.69	25.00		1			3	MB			
50971-35-31	25.02	25.00		1			3	MB			
50971-35-31	47.70	25.00		1			3	MB			
50971-35-31	31.08	25.00		1			3	MB			
50971-35-31	20.43	25.00		1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
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50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31				1			3	MB			
50971-35-31	42.01	25.00		1			3	MB			
50971-35-31	16.68	25.00		1			3	MB			
50971-35-31	9.70	5.00		1			3	MB			
50971-35-31	9.39	5.00		1			3	MB			
50971-35-31				1			3	MB			
50971-35-31	41.10	50.00		1			3	MB			
50971-35-31	40.46	50.00		1			3	MB			
50971-35-31	30.84	25.00		1			3	MB			
50971-35-31	38.03	25.00		1			3	MB			
50971-35-31	26.75	25.00		1			3	MB			
50971-35-31	40.68	25.00		1			3	MB			
50971-35-31	31.08	25.00		1			3	MB			
50971-35-31	18.61	25.00		1			3	MB			
50971-35-31	9.70	5.00		1			3	MB			
50971-35-31	9.39	5.00		1			3	MB			

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE	ANAL_DATE	METHOD
50971-35-30	DIOXIN	1,2,3,4,6,7,8-HpCDD	50971-35-30	35822-46-9	118		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,4,6,7,8-HpCDF	50971-35-30	67562-39-4	118		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,4,7,8,9-HpCDF	50971-35-30	55673-89-7	117		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,4,7,8-HxCDD	50971-35-30	39227-28-6	122	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,4,7,8-HxCDF	50971-35-30	70648-26-9	129	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,6,7,8-HxCDD	50971-35-30	57653-85-7	121	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,6,7,8-HxCDF	50971-35-30	57117-44-9	130	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,7,8,9-HxCDD	50971-35-30	19408-74-3	119		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,7,8,9-HxCDF	50971-35-30	72918-21-9	132	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,7,8-PeCDD	50971-35-30	40321-76-4	131	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	1,2,3,7,8-PeCDF	50971-35-30	57117-41-6	117		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,4,6,7,8-HpCDD	50971-35-30	109719-83-7	80		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,4,6,7,8-HpCDF	50971-35-30	116843-09-5	84		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,4,7,8,9-HpCDF	50971-35-30	109719-94-0	77		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,4,7,8-HxCDD	50971-35-30	109719-80-4	76		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,4,7,8-HxCDF	50971-35-30	114423-98-2	71		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,6,7,8-HxCDD	50971-35-30	109719-81-5	81		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,6,7,8-HxCDF	50971-35-30	116843-03-9	73		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,7,8,9-HxCDF	50971-35-30	116843-04-0	68		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,7,8-PeCDD	50971-35-30	109719-79-1	81		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-1,2,3,7,8-PeCDF	50971-35-30	109719-77-9	85		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-2,3,4,6,7,8-HxCDF	50971-35-30	116843-05-1	76		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-2,3,4,7,8-PeCDF	50971-35-30	116843-02-8	84		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-2,3,7,8-TCDD	50971-35-30	76523-40-5	69		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-2,3,7,8-TCDF	50971-35-30	89059-46-1	75		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	13C-OCDD	50971-35-30	114423-97-1	78		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	2,3,4,6,7,8-HxCDF	50971-35-30	60851-34-5	127	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	2,3,4,7,8-PeCDF	50971-35-30	57117-31-4	124	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	2,3,7,8-TCDD	50971-35-30	1746-01-6	137	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	2,3,7,8-TCDF	50971-35-30	51207-31-9	115		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	37Cl-2,3,7,8-TCDD	50971-35-30	85508-50-5	89		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	OCDD	50971-35-30	3268-87-9	120		PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B
50971-35-30	DIOXIN	OCDF	50971-35-30	39001-02-0	122	N	PCT_REC		50971-35	BCO	50971-35-30		22-Aug-05	30-Aug-05	MOD 1613B

NSAMPLE	MDL	IDL	CRDL_CRQL	DIL_FACTOR	PCT_MOIST	COMMENTS	DVTIER	LAB_QC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
50971-35-30	2.68	50.00		1			3	LCS			
50971-35-30	20.63	50.00		1			3	LCS			
50971-35-30	25.53	50.00		1			3	LCS			
50971-35-30	0.80	50.00		1			3	LCS			
50971-35-30	1.39	50.00		1			3	LCS			
50971-35-30	0.75	50.00		1			3	LCS			
50971-35-30	1.38	50.00		1			3	LCS			
50971-35-30	0.70	50.00		1			3	LCS			
50971-35-30	1.57	50.00		1			3	LCS			
50971-35-30	2.29	50.00		1			3	LCS			
50971-35-30	1.37	50.00		1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30	1.34	50.00		1			3	LCS			
50971-35-30	1.17	50.00		1			3	LCS			
50971-35-30	1.00	10.00		1			3	LCS			
50971-35-30	0.44	10.00		1			3	LCS			
50971-35-30				1			3	LCS			
50971-35-30	1.71	100.00		1			3	LCS			
50971-35-30	1.32	100.00		1			3	LCS			

Section 2
Groundwater VOC Results

CASE NARRATIVE

Battelle

STL Lot # C5G010308

Sample Receiving:
STL Pittsburgh received samples for analysis on July 1, 2005. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report and batch QC was completed on these samples, anomalous results will be discussed below.

GC/MS Volatiles:
Due to the concentration of target compounds detected, the samples were analyzed at a dilution.

The method blank for batch 5195224 had methylene chloride detected below the reporting limit but above the MDL. The result was flagged with a "J" qualifier. Any sample associated with this blank that had methylene chloride detected had the result flagged with a "B" qualifier.

The laboratory control standard had hexachlorobutadiene recover high and outside of criteria. All control compounds recovered within limits.

The matrix spike and matrix spike duplicate had hexachlorobutadiene and 1,2-dibromo-3-chloropropane recover outside of criteria. All control compounds recovered within limits.

All non-CCC compounds that have >15% RSD were evaluated to see if a better curve could be drawn using a quadratic curve. All compounds <30% RSD will use an average response factor curve if no visible improvement is accomplished using a quadratic curve. A quadratic curve will be used for a compound where it is determined to be the "best-fit" evaluation.

The following compounds had the %D > 25% in the calibration verification standard; but were within expected performance range for these compounds: 1,2-dibromo-3-chloropropane -31.0%, benzene -27.2%, dichlorodifluoromethane 26.4%, hexachlorobutadiene 46.8% and trans-1,3-dichloropropene -26.2%.

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE
CMS-GW-MW05S-05	OV	1,1,1,2-TETRACHLOROETHANE	CMS-GW-MW05S-05	630-20-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,1,1-TRICHLOROETHANE	CMS-GW-MW05S-05	71-55-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,1,2,2-TETRACHLOROETHANE	CMS-GW-MW05S-05	79-34-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,1,2-TRICHLOROETHANE	CMS-GW-MW05S-05	79-00-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,1-DICHLOROETHANE	CMS-GW-MW05S-05	75-34-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,1-DICHLOROETHENE	CMS-GW-MW05S-05	75-35-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,1-DICHLOROPROPENE	CMS-GW-MW05S-05	563-58-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2,3-TRICHLOROBENZENE	CMS-GW-MW05S-05	87-61-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2,3-TRICHLOROPROPANE	CMS-GW-MW05S-05	96-18-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2,4-TRICHLOROBENZENE	CMS-GW-MW05S-05	120-82-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2,4-TRIMETHYLBENZENE	CMS-GW-MW05S-05	95-63-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2-DIBROMO-3-CHLOROPROPANE	CMS-GW-MW05S-05	96-12-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2-DIBROMOETHANE	CMS-GW-MW05S-05	106-93-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2-DICHLOROBENZENE	CMS-GW-MW05S-05	95-50-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2-DICHLOROETHANE	CMS-GW-MW05S-05	107-06-2	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2-DICHLOROETHANE-D4	CMS-GW-MW05S-05	17060-07-0	95		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,2-DICHLOROPROPANE	CMS-GW-MW05S-05	78-87-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,3,5-TRIMETHYLBENZENE	CMS-GW-MW05S-05	108-67-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,3-DICHLOROBENZENE	CMS-GW-MW05S-05	541-73-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,3-DICHLOROPROPANE	CMS-GW-MW05S-05	142-28-9	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	1,4-DICHLOROBENZENE	CMS-GW-MW05S-05	106-46-7	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	2,2-DICHLOROPROPANE	CMS-GW-MW05S-05	594-20-7	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	2-CHLOROTOLUENE	CMS-GW-MW05S-05	95-49-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	4-BROMOFLUOROBENZENE	CMS-GW-MW05S-05	460-00-4	89		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	4-CHLOROTOLUENE	CMS-GW-MW05S-05	106-43-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	BENZENE	CMS-GW-MW05S-05	71-43-2	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	BROMOBENZENE	CMS-GW-MW05S-05	108-86-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	BROMOCHLOROMETHANE	CMS-GW-MW05S-05	74-97-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	BROMODICHLOROMETHANE	CMS-GW-MW05S-05	75-27-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	BROMOFORM	CMS-GW-MW05S-05	75-25-2	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	BROMOMETHANE	CMS-GW-MW05S-05	74-83-9	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CARBON TETRACHLORIDE	CMS-GW-MW05S-05	56-23-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CHLOROBENZENE	CMS-GW-MW05S-05	108-90-7	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CHLOROETHANE	CMS-GW-MW05S-05	75-00-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CHLOROFORM	CMS-GW-MW05S-05	67-66-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CHLOROMETHANE	CMS-GW-MW05S-05	74-87-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CIS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05	156-59-2	1000		UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	CIS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05	10061-01-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	DIBROMOCHLOROMETHANE	CMS-GW-MW05S-05	124-48-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	DIBROMOFLUOROMETHANE	CMS-GW-MW05S-05	1868-53-7	91		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	DIBROMOMETHANE	CMS-GW-MW05S-05	74-95-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	DICHLORODIFLUOROMETHANE	CMS-GW-MW05S-05	75-71-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	ETHYLBENZENE	CMS-GW-MW05S-05	100-41-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	HEXACHLOROBUTADIENE	CMS-GW-MW05S-05	87-68-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	ISOPROPYLBENZENE	CMS-GW-MW05S-05	98-82-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	METHYLENE CHLORIDE	CMS-GW-MW05S-05	75-09-2	700	J B	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	M-XYLENE & P-XYLENE	CMS-GW-MW05S-05	136777-61-2	2000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	NAPHTHALENE	CMS-GW-MW05S-05	91-20-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	N-BUTYLBENZENE	CMS-GW-MW05S-05	104-51-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	N-PROPYLBENZENE	CMS-GW-MW05S-05	103-65-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	O-XYLENE	CMS-GW-MW05S-05	95-47-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	P-ISOPROPYLTOLUENE	CMS-GW-MW05S-05	99-87-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	SEC-BUTYLBENZENE	CMS-GW-MW05S-05	135-98-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	STYRENE	CMS-GW-MW05S-05	100-42-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TERT-BUTYLBENZENE	CMS-GW-MW05S-05	98-06-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TETRACHLOROETHENE	CMS-GW-MW05S-05	127-18-4	17000		UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TOLUENE	CMS-GW-MW05S-05	108-88-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05

NSAMPLE	EXTRACT	[illegible]	[illegible]	[illegible]	[illegible]	ID_GRP	PQL	DIL_FACTOR	RCL	MOIST	COMMENTS	DVTIER	LAB_CONTROL	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	420		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	400		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	99		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	380		1000	1000	100		2	N	1000	UJ			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B				1000	100		2	N	95				
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	98		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B				1000	100		2	N	89				
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	N	1000	UJ			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	110		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	410		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	270		1000	1000	100		2	N	1000				
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	310		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B				1000	100		2	N	91				
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	N	1000	UJ			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	N	1000	UJ			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	400		2000	1000	100		2	N	700	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	250		2000	1000	100		2	N	2000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	260		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	85		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U			
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	N	17000				
CMS-GW-MW05S-05	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	N	1000	U			

NSAMPLE	CLASS	VARIANTNAME	SAMPLE	CAS_NO	LAB RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE
CMS-GW-MW05S-05	OV	TOLUENE-D8	CMS-GW-MW05S-05	2037-26-5	98		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TRANS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05	156-60-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TRANS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05	10061-02-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TRICHLOROETHENE	CMS-GW-MW05S-05	79-01-6	1400		UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	TRICHLOROFLUOROMETHANE	CMS-GW-MW05S-05	75-69-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05	OV	VINYL CHLORIDE	CMS-GW-MW05S-05	75-01-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308001	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1,1,2-TETRACHLOROETHANE	CMS-GW-MW05S-05DU	630-20-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1,1-TRICHLOROETHANE	CMS-GW-MW05S-05DU	71-55-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1,2,2-TETRACHLOROETHANE	CMS-GW-MW05S-05DU	79-34-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1,2-TRICHLOROETHANE	CMS-GW-MW05S-05DU	79-00-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1-DICHLOROETHANE	CMS-GW-MW05S-05DU	75-34-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1-DICHLOROETHENE	CMS-GW-MW05S-05DU	75-35-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,1-DICHLOROPROPENE	CMS-GW-MW05S-05DU	563-58-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2,3-TRICHLOROBENZENE	CMS-GW-MW05S-05DU	87-61-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2,3-TRICHLOROPROPANE	CMS-GW-MW05S-05DU	96-18-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2,4-TRICHLOROBENZENE	CMS-GW-MW05S-05DU	120-82-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2,4-TRIMETHYLBENZENE	CMS-GW-MW05S-05DU	95-63-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2-DIBROMO-3-CHLOROPROPANE	CMS-GW-MW05S-05DU	96-12-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2-DIBROMOETHANE	CMS-GW-MW05S-05DU	106-93-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2-DICHLOROBENZENE	CMS-GW-MW05S-05DU	95-50-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2-DICHLOROETHANE	CMS-GW-MW05S-05DU	107-06-2	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2-DICHLOROETHANE-D4	CMS-GW-MW05S-05DU	17060-07-0	93		PCT_REC		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,2-DICHLOROPROPANE	CMS-GW-MW05S-05DU	78-87-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,3,5-TRIMETHYLBENZENE	CMS-GW-MW05S-05DU	108-67-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,3-DICHLOROBENZENE	CMS-GW-MW05S-05DU	541-73-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,3-DICHLOROPROPANE	CMS-GW-MW05S-05DU	142-28-9	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	1,4-DICHLOROBENZENE	CMS-GW-MW05S-05DU	106-46-7	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	2,2-DICHLOROPROPANE	CMS-GW-MW05S-05DU	594-20-7	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	2-CHLOROTOLUENE	CMS-GW-MW05S-05DU	95-49-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	4-BROMOFLUOROBENZENE	CMS-GW-MW05S-05DU	460-00-4	92		PCT_REC		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	4-CHLOROTOLUENE	CMS-GW-MW05S-05DU	106-43-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	BENZENE	CMS-GW-MW05S-05DU	71-43-2	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	BROMOBENZENE	CMS-GW-MW05S-05DU	108-86-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	BROMOCHLOROMETHANE	CMS-GW-MW05S-05DU	74-97-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	BROMODICHLOROMETHANE	CMS-GW-MW05S-05DU	75-27-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	BROMOFORM	CMS-GW-MW05S-05DU	75-25-2	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	BROMOMETHANE	CMS-GW-MW05S-05DU	74-83-9	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CARBON TETRACHLORIDE	CMS-GW-MW05S-05DU	56-23-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CHLOROBENZENE	CMS-GW-MW05S-05DU	108-90-7	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CHLOROETHANE	CMS-GW-MW05S-05DU	75-00-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CHLOROFORM	CMS-GW-MW05S-05DU	67-66-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CHLOROMETHANE	CMS-GW-MW05S-05DU	74-87-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CIS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05DU	156-59-2	1200		UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	CIS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05DU	10061-01-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	DIBROMOCHLOROMETHANE	CMS-GW-MW05S-05DU	124-48-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	DIBROMOFLUOROMETHANE	CMS-GW-MW05S-05DU	1868-53-7	90		PCT_REC		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	DIBROMOMETHANE	CMS-GW-MW05S-05DU	74-95-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	DICHLORODIFLUOROMETHANE	CMS-GW-MW05S-05DU	75-71-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	ETHYLBENZENE	CMS-GW-MW05S-05DU	100-41-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	HEXACHLOROBUTADIENE	CMS-GW-MW05S-05DU	87-68-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	ISOPROPYLBENZENE	CMS-GW-MW05S-05DU	98-82-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	METHYLENE CHLORIDE	CMS-GW-MW05S-05DU	75-09-2	720	J B	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	M-XYLENE & P-XYLENE	CMS-GW-MW05S-05DU	136777-61-2	2000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	NAPHTHALENE	CMS-GW-MW05S-05DU	91-20-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	N-BUTYLBENZENE	CMS-GW-MW05S-05DU	104-51-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	N-PROPYLBENZENE	CMS-GW-MW05S-05DU	103-65-1	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	O-XYLENE	CMS-GW-MW05S-05DU	95-47-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05

SAMPLE	EXT	DATE												FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-GW-MW05S-05		14-Jul-05	14-Jul-05	8260B				1000	100		2	N		98		
CMS-GW-MW05S-05		14-Jul-05	14-Jul-05	8260B	230		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05		14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	N		1000	UJ	
CMS-GW-MW05S-05		14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	N		1400		
CMS-GW-MW05S-05		14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05		14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	420		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	400		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	99		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	380		1000	1000	100		2	N		1000	UJ	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B				1000	100		2	N		93		
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	98		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B				1000	100		2	N		92		
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	N		1000	UJ	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	110		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	410		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	270		1000	1000	100		2	N		1200		
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	310		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B				1000	100		2	N		90		
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	N		1000	UJ	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	N		1000	UJ	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	400		2000	1000	100		2	N		720	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	250		2000	1000	100		2	N		2000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	260		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	N		1000	U	
CMS-GW-MW05S-05DU		14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	N		1000	U	

SAMPLE	CLASS	PARAMETER	SAMPLE	CAS NO.	LAB RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE
CMS-GW-MW05S-05DU	OV	P-ISOPROPYLTOLUENE	CMS-GW-MW05S-05DU	99-87-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	SEC-BUTYLBENZENE	CMS-GW-MW05S-05DU	135-98-8	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	STYRENE	CMS-GW-MW05S-05DU	100-42-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TERT-BUTYLBENZENE	CMS-GW-MW05S-05DU	98-06-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TETRACHLOROETHENE	CMS-GW-MW05S-05DU	127-18-4	22000		UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TOLUENE	CMS-GW-MW05S-05DU	108-88-3	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TOLUENE-D8	CMS-GW-MW05S-05DU	2037-26-5	104		PCT_REC		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TRANS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05DU	156-60-5	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TRANS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05DU	10061-02-6	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TRICHLOROETHENE	CMS-GW-MW05S-05DU	79-01-6	1500		UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	TRICHLOROFLUOROMETHANE	CMS-GW-MW05S-05DU	75-69-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05DU	OV	VINYL CHLORIDE	CMS-GW-MW05S-05DU	75-01-4	1000	U	UG/L		C5G010308	STL Pittsburgh	C5G010308002	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1,1,2-TETRACHLOROETHANE	CMS-GW-MW05S-05MS	630-20-6	101		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1,1-TRICHLOROETHANE	CMS-GW-MW05S-05MS	71-55-6	91		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1,2,2-TETRACHLOROETHANE	CMS-GW-MW05S-05MS	79-34-5	70		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1,2-TRICHLOROETHANE	CMS-GW-MW05S-05MS	79-00-5	91		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1-DICHLOROETHANE	CMS-GW-MW05S-05MS	75-34-3	84		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1-DICHLOROETHENE	CMS-GW-MW05S-05MS	75-35-4	89		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,1-DICHLOROPROPENE	CMS-GW-MW05S-05MS	563-58-6	85		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2,3-TRICHLOROBENZENE	CMS-GW-MW05S-05MS	87-61-6	96		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2,3-TRICHLOROPROPANE	CMS-GW-MW05S-05MS	96-18-4	71		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2,4-TRICHLOROBENZENE	CMS-GW-MW05S-05MS	120-82-1	101		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2,4-TRIMETHYLBENZENE	CMS-GW-MW05S-05MS	95-63-6	88		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2-DIBROMO-3-CHLOROPROPANE	CMS-GW-MW05S-05MS	96-12-8	63	a	PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2-DIBROMOETHANE	CMS-GW-MW05S-05MS	106-93-4	82		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2-DICHLOROBENZENE	CMS-GW-MW05S-05MS	95-50-1	83		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2-DICHLOROETHANE	CMS-GW-MW05S-05MS	107-06-2	91		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2-DICHLOROETHANE-D4	CMS-GW-MW05S-05MS	17060-07-0	97		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,2-DICHLOROPROPANE	CMS-GW-MW05S-05MS	78-87-5	85		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,3,5-TRIMETHYLBENZENE	CMS-GW-MW05S-05MS	108-67-8	91		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,3-DICHLOROBENZENE	CMS-GW-MW05S-05MS	541-73-1	84		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,3-DICHLOROPROPANE	CMS-GW-MW05S-05MS	142-28-9	83		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	1,4-DICHLOROBENZENE	CMS-GW-MW05S-05MS	106-46-7	84		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	2,2-DICHLOROPROPANE	CMS-GW-MW05S-05MS	594-20-7	89		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	2-CHLOROTOLUENE	CMS-GW-MW05S-05MS	95-49-8	90		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	4-BROMOFLUOROBENZENE	CMS-GW-MW05S-05MS	460-00-4	85		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	4-CHLOROTOLUENE	CMS-GW-MW05S-05MS	106-43-4	83		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	BENZENE	CMS-GW-MW05S-05MS	71-43-2	88		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	BROMOBENZENE	CMS-GW-MW05S-05MS	108-86-1	84		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	BROMOCHLOROMETHANE	CMS-GW-MW05S-05MS	74-97-5	94		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	BROMODICHLOROMETHANE	CMS-GW-MW05S-05MS	75-27-4	89		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	BROMOFORM	CMS-GW-MW05S-05MS	75-25-2	107		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	BROMOMETHANE	CMS-GW-MW05S-05MS	74-83-9	88		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CARBON TETRACHLORIDE	CMS-GW-MW05S-05MS	56-23-5	111		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CHLOROBENZENE	CMS-GW-MW05S-05MS	108-90-7	98		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CHLOROETHANE	CMS-GW-MW05S-05MS	75-00-3	88		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CHLOROFORM	CMS-GW-MW05S-05MS	67-66-3	86		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CHLOROMETHANE	CMS-GW-MW05S-05MS	74-87-3	78		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CIS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05MS	156-59-2	82		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	CIS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05MS	10061-01-5	83		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	DIBROMOCHLOROMETHANE	CMS-GW-MW05S-05MS	124-48-1	97		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	DIBROMOFLUOROMETHANE	CMS-GW-MW05S-05MS	1868-53-7	88		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	DIBROMOMETHANE	CMS-GW-MW05S-05MS	74-95-3	90		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	DICHLORODIFLUOROMETHANE	CMS-GW-MW05S-05MS	75-71-8	89		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	ETHYLBENZENE	CMS-GW-MW05S-05MS	100-41-4	91		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	HEXACHLOROBUTADIENE	CMS-GW-MW05S-05MS	87-68-3	145	a	PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	ISOPROPYLBENZENE	CMS-GW-MW05S-05MS	98-82-8	100		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05

NSAMPLE	SAMPLE_DATE	ANALYSIS_DATE	METHOD	MDL	MDL_UNITS	PRED_CROM_DIL_FACTOR	DIL_FACTOR	PCT_MOIST	COMMENTS	DYTIPE	CAS_OC_TYPE	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	85		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	N	22000		
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B				1000	100		2	N	104		
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	230		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	N	1000	UJ	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	N	1500		
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05DU	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	N	1000	U	
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MS	101		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	MS	91		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	420		1000	1000	100		2	MS	70		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	MS	91		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	MS	84		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	MS	89		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	MS	85		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	MS	96		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	MS	71		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	400		1000	1000	100		2	MS	101		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	99		1000	1000	100		2	MS	88		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	380		1000	1000	100		2	MS	63		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	MS	82		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	MS	83		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MS	91		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B				1000	100		2	MS	97		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MS	85		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MS	91		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	98		1000	1000	100		2	MS	84		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	MS	83		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	MS	84		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	MS	89		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	MS	90		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B				1000	100		2	MS	85		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	MS	83		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	MS	88		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	MS	84		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	MS	94		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	110		1000	1000	100		2	MS	89		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	MS	107		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	MS	88		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	MS	111		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	MS	98		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	410		1000	1000	100		2	MS	88		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MS	86		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MS	78		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	270		1000	1000	100		2	MS	82		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	MS	83		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	310		1000	1000	100		2	MS	97		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B				1000	100		2	MS	88		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	MS	90		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	MS	89		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MS	91		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	MS	145		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	MS	100		

NSAMPLE	CLASS	PARAMETER	PASAMNO	CASNO	LAB RESULT	QUALIFIERS	PASR	SDG	LABORATORY	LAB ID	REC_DATE
CMS-GW-MW05S-05MS	OV	METHYLENE CHLORIDE	CMS-GW-MW05S-05MS	75-09-2	74		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	M-XYLENE & P-XYLENE	CMS-GW-MW05S-05MS	136777-61-2	96		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	NAPHTHALENE	CMS-GW-MW05S-05MS	91-20-3	71		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	N-BUTYLBENZENE	CMS-GW-MW05S-05MS	104-51-8	104		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	N-PROPYLBENZENE	CMS-GW-MW05S-05MS	103-65-1	90		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	O-XYLENE	CMS-GW-MW05S-05MS	95-47-6	94		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	P-ISOPROPYLTOLUENE	CMS-GW-MW05S-05MS	99-87-6	100		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	SEC-BUTYLBENZENE	CMS-GW-MW05S-05MS	135-98-8	100		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	STYRENE	CMS-GW-MW05S-05MS	100-42-5	94		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TERT-BUTYLBENZENE	CMS-GW-MW05S-05MS	98-06-6	98		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TETRACHLOROETHENE	CMS-GW-MW05S-05MS	127-18-4	103		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TOLUENE	CMS-GW-MW05S-05MS	108-88-3	93		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TOLUENE-D8	CMS-GW-MW05S-05MS	2037-26-5	102		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TRANS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05MS	156-60-5	93		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TRANS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05MS	10061-02-6	82		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TRICHLOROETHENE	CMS-GW-MW05S-05MS	79-01-6	90		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	TRICHLOROFLUOROMETHANE	CMS-GW-MW05S-05MS	75-69-4	103		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MS	OV	VINYL CHLORIDE	CMS-GW-MW05S-05MS	75-01-4	87		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001S	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1,1,2-TETRACHLOROETHANE	CMS-GW-MW05S-05MSD	630-20-6	110		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1,1-TRICHLOROETHANE	CMS-GW-MW05S-05MSD	71-55-6	95		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1,2,2-TETRACHLOROETHANE	CMS-GW-MW05S-05MSD	79-34-5	68		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1,2-TRICHLOROETHANE	CMS-GW-MW05S-05MSD	79-00-5	91		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1-DICHLOROETHANE	CMS-GW-MW05S-05MSD	75-34-3	89		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1-DICHLOROETHENE	CMS-GW-MW05S-05MSD	75-35-4	91		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,1-DICHLOROPROPENE	CMS-GW-MW05S-05MSD	563-58-6	82		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2,3-TRICHLOROBENZENE	CMS-GW-MW05S-05MSD	87-61-6	98		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2,3-TRICHLOROPROPANE	CMS-GW-MW05S-05MSD	96-18-4	72		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2,4-TRICHLOROBENZENE	CMS-GW-MW05S-05MSD	120-82-1	97		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2,4-TRIMETHYLBENZENE	CMS-GW-MW05S-05MSD	95-63-6	88		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2-DIBROMO-3-CHLOROPROPANE	CMS-GW-MW05S-05MSD	96-12-8	56	a	PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2-DIBROMOETHANE	CMS-GW-MW05S-05MSD	106-93-4	90		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2-DICHLOROBENZENE	CMS-GW-MW05S-05MSD	95-50-1	86		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2-DICHLOROETHANE	CMS-GW-MW05S-05MSD	107-06-2	87		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2-DICHLOROETHANE-D4	CMS-GW-MW05S-05MSD	17060-07-0	96		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,2-DICHLOROPROPANE	CMS-GW-MW05S-05MSD	78-87-5	88		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,3,5-TRIMETHYLBENZENE	CMS-GW-MW05S-05MSD	108-67-8	88		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,3-DICHLOROBENZENE	CMS-GW-MW05S-05MSD	541-73-1	84		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,3-DICHLOROPROPANE	CMS-GW-MW05S-05MSD	142-28-9	86		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	1,4-DICHLOROBENZENE	CMS-GW-MW05S-05MSD	106-46-7	84		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	2,2-DICHLOROPROPANE	CMS-GW-MW05S-05MSD	594-20-7	87		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	2-CHLOROTOLUENE	CMS-GW-MW05S-05MSD	95-49-8	89		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	4-BROMOFLUOROBENZENE	CMS-GW-MW05S-05MSD	460-00-4	89		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	4-CHLOROTOLUENE	CMS-GW-MW05S-05MSD	106-43-4	86		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	BENZENE	CMS-GW-MW05S-05MSD	71-43-2	89		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	BROMOBENZENE	CMS-GW-MW05S-05MSD	108-86-1	83		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	BROMOCHLOROMETHANE	CMS-GW-MW05S-05MSD	74-97-5	94		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	BROMODICHLOROMETHANE	CMS-GW-MW05S-05MSD	75-27-4	91		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	BROMOFORM	CMS-GW-MW05S-05MSD	75-25-2	104		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	BROMOMETHANE	CMS-GW-MW05S-05MSD	74-83-9	93		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CARBON TETRACHLORIDE	CMS-GW-MW05S-05MSD	56-23-5	121		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CHLOROBENZENE	CMS-GW-MW05S-05MSD	108-90-7	99		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CHLOROETHANE	CMS-GW-MW05S-05MSD	75-00-3	92		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CHLOROFORM	CMS-GW-MW05S-05MSD	67-66-3	91		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CHLOROMETHANE	CMS-GW-MW05S-05MSD	74-87-3	79		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CIS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05MSD	156-59-2	88		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	CIS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05MSD	10061-01-5	82		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	DIBROMOCHLOROMETHANE	CMS-GW-MW05S-05MSD	124-48-1	99		PCT_REC	C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	400		2000	1000	100		2	MS	74		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	250		2000	1000	100		2	MS	96		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	260		1000	1000	100		2	MS	71		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	MS	104		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	MS	90		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	MS	94		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	85		1000	1000	100		2	MS	100		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	MS	100		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MS	94		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MS	98		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	MS	103		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	MS	93		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B				1000	100		2	MS	102		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	230		1000	1000	100		2	MS	93		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	MS	82		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	MS	90		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	MS	103		
CMS-GW-MW05S-05MS	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MS	87		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MSD	110		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	MSD	95		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	420		1000	1000	100		2	MSD	68		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	MSD	91		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	MSD	89		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	MSD	91		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	MSD	82		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	MSD	98		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	MSD	72		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	400		1000	1000	100		2	MSD	97		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	99		1000	1000	100		2	MSD	88		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	380		1000	1000	100		2	MSD	56		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	MSD	90		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	MSD	86		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MSD	87		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B				1000	100		2	MSD	96		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MSD	88		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MSD	88		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	98		1000	1000	100		2	MSD	84		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	MSD	86		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	MSD	84		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	MSD	87		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	MSD	89		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B				1000	100		2	MSD	89		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	240		1000	1000	100		2	MSD	86		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	MSD	89		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	320		1000	1000	100		2	MSD	83		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	MSD	94		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	110		1000	1000	100		2	MSD	91		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	290		1000	1000	100		2	MSD	104		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	MSD	93		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	250		1000	1000	100		2	MSD	121		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	MSD	99		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	410		1000	1000	100		2	MSD	92		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MSD	91		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MSD	79		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	270		1000	1000	100		2	MSD	88		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	160		1000	1000	100		2	MSD	82		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	310		1000	1000	100		2	MSD	99		

SAMPLE	CLASS	PARAM	ERASAMP	CAS NO	ABRESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB ID	REC_DATE
CMS-GW-MW05S-05MSD	OV	DIBROMOFLUOROMETHANE	CMS-GW-MW05S-05MSD	1868-53-7	93		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	DIBROMOMETHANE	CMS-GW-MW05S-05MSD	74-95-3	90		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	DICHLORODIFLUOROMETHANE	CMS-GW-MW05S-05MSD	75-71-8	85		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	ETHYLBENZENE	CMS-GW-MW05S-05MSD	100-41-4	98		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	HEXACHLOROBUTADIENE	CMS-GW-MW05S-05MSD	87-68-3	155	a	PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	ISOPROPYLBENZENE	CMS-GW-MW05S-05MSD	98-82-8	104		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	METHYLENE CHLORIDE	CMS-GW-MW05S-05MSD	75-09-2	73		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	M-XYLENE & P-XYLENE	CMS-GW-MW05S-05MSD	136777-61-2	98		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	NAPHTHALENE	CMS-GW-MW05S-05MSD	91-20-3	72		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	N-BUTYLBENZENE	CMS-GW-MW05S-05MSD	104-51-8	105		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	N-PROPYLBENZENE	CMS-GW-MW05S-05MSD	103-65-1	93		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	O-XYLENE	CMS-GW-MW05S-05MSD	95-47-6	97		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	P-ISOPROPYLTOLUENE	CMS-GW-MW05S-05MSD	99-87-6	101		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	SEC-BUTYLBENZENE	CMS-GW-MW05S-05MSD	135-98-8	102		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	STYRENE	CMS-GW-MW05S-05MSD	100-42-5	96		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TERT-BUTYLBENZENE	CMS-GW-MW05S-05MSD	98-06-6	98		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TETRACHLOROETHENE	CMS-GW-MW05S-05MSD	127-18-4	117		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TOLUENE	CMS-GW-MW05S-05MSD	108-88-3	98		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TOLUENE-D8	CMS-GW-MW05S-05MSD	2037-26-5	104		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TRANS-1,2-DICHLOROETHENE	CMS-GW-MW05S-05MSD	156-60-5	93		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TRANS-1,3-DICHLOROPROPENE	CMS-GW-MW05S-05MSD	10061-02-6	84		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TRICHLOROETHENE	CMS-GW-MW05S-05MSD	79-01-6	97		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	TRICHLOROFLUOROMETHANE	CMS-GW-MW05S-05MSD	75-69-4	102		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
CMS-GW-MW05S-05MSD	OV	VINYL CHLORIDE	CMS-GW-MW05S-05MSD	75-01-4	86		PCT_REC		C5G010308	STL Pittsburgh	C5G010308001D	1-Jul-05
INTRA-LAB BLANK	OV	1,1,1,2-TETRACHLOROETHANE	INTRA-LAB BLANK	630-20-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,1,1-TRICHLOROETHANE	INTRA-LAB BLANK	71-55-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,1,2,2-TETRACHLOROETHANE	INTRA-LAB BLANK	79-34-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,1,2-TRICHLOROETHANE	INTRA-LAB BLANK	79-00-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,1-DICHLOROETHANE	INTRA-LAB BLANK	75-34-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,1-DICHLOROETHENE	INTRA-LAB BLANK	75-35-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,1-DICHLOROPROPENE	INTRA-LAB BLANK	563-58-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2,3-TRICHLOROBENZENE	INTRA-LAB BLANK	87-61-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2,3-TRICHLOROPROPANE	INTRA-LAB BLANK	96-18-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2,4-TRICHLOROBENZENE	INTRA-LAB BLANK	120-82-1	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2,4-TRIMETHYLBENZENE	INTRA-LAB BLANK	95-63-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2-DIBROMO-3-CHLOROPROPANE	INTRA-LAB BLANK	96-12-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2-DIBROMOETHANE	INTRA-LAB BLANK	106-93-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2-DICHLOROBENZENE	INTRA-LAB BLANK	95-50-1	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2-DICHLOROETHANE	INTRA-LAB BLANK	107-06-2	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2-DICHLOROETHANE-D4	INTRA-LAB BLANK	17060-07-0	95		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,2-DICHLOROPROPANE	INTRA-LAB BLANK	78-87-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,3,5-TRIMETHYLBENZENE	INTRA-LAB BLANK	108-67-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,3-DICHLOROBENZENE	INTRA-LAB BLANK	541-73-1	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,3-DICHLOROPROPANE	INTRA-LAB BLANK	142-28-9	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	1,4-DICHLOROBENZENE	INTRA-LAB BLANK	106-46-7	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	2,2-DICHLOROPROPANE	INTRA-LAB BLANK	594-20-7	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	2-CHLOROTOLUENE	INTRA-LAB BLANK	95-49-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	4-BROMOFLUOROBENZENE	INTRA-LAB BLANK	460-00-4	84		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	4-CHLOROTOLUENE	INTRA-LAB BLANK	106-43-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	BENZENE	INTRA-LAB BLANK	71-43-2	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	BROMOBENZENE	INTRA-LAB BLANK	108-86-1	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	BROMOCHLOROMETHANE	INTRA-LAB BLANK	74-97-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	BROMODICHLOROMETHANE	INTRA-LAB BLANK	75-27-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	BROMOFORM	INTRA-LAB BLANK	75-25-2	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	BROMOMETHANE	INTRA-LAB BLANK	74-83-9	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	CARBON TETRACHLORIDE	INTRA-LAB BLANK	56-23-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	CHLOROBENZENE	INTRA-LAB BLANK	108-90-7	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	

SAMPLE															
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B				1000	100		2	MSD	93		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	MSD	90		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	430		1000	1000	100		2	MSD	85		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MSD	98		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	350		1000	1000	100		2	MSD	155		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	190		1000	1000	100		2	MSD	104		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	400		2000	1000	100		2	MSD	73		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	250		2000	1000	100		2	MSD	98		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	260		1000	1000	100		2	MSD	72		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	130		1000	1000	100		2	MSD	105		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	200		1000	1000	100		2	MSD	93		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	140		1000	1000	100		2	MSD	97		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	85		1000	1000	100		2	MSD	101		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	MSD	102		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MSD	96		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	100		1000	1000	100		2	MSD	98		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	210		1000	1000	100		2	MSD	117		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	MSD	98		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B				1000	100		2	MSD	104		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	230		1000	1000	100		2	MSD	93		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	120		1000	1000	100		2	MSD	84		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	220		1000	1000	100		2	MSD	97		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	180		1000	1000	100		2	MSD	102		
CMS-GW-MW05S-05MSD	14-Jul-05	14-Jul-05	8260B	170		1000	1000	100		2	MSD	86		
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.24		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.42		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.22		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.21		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.35		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.29		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.32		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.25		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.4		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.099		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.38		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.16		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.2		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B				1	100		2	MB	95		
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.098		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.14		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.2		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.35		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.14		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B				1	100		2	MB	84		
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.24		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.13		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.32		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.29		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.11		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.29		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.43		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.25		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.19		1	1	100		2	MB	1	U	

NSAMPLE	CLASS	PARAM	PARAMNOM	CAS_NO	RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE
INTRA-LAB BLANK	OV	CHLOROETHANE	INTRA-LAB BLANK	75-00-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	CHLOROFORM	INTRA-LAB BLANK	67-66-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	CHLOROMETHANE	INTRA-LAB BLANK	74-87-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	CIS-1,2-DICHLOROETHENE	INTRA-LAB BLANK	156-59-2	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	CIS-1,3-DICHLOROPROPENE	INTRA-LAB BLANK	10061-01-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	DIBROMOCHLOROMETHANE	INTRA-LAB BLANK	124-48-1	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	DIBROMOFLUOROMETHANE	INTRA-LAB BLANK	1868-53-7	87		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	DIBROMOMETHANE	INTRA-LAB BLANK	74-95-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	DICHLORODIFLUOROMETHANE	INTRA-LAB BLANK	75-71-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	ETHYLBENZENE	INTRA-LAB BLANK	100-41-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	HEXACHLOROBUTADIENE	INTRA-LAB BLANK	87-68-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	ISOPROPYLBENZENE	INTRA-LAB BLANK	98-82-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	METHYLENE CHLORIDE	INTRA-LAB BLANK	75-09-2	0.51	J	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	M-XYLENE & P-XYLENE	INTRA-LAB BLANK	136777-61-2	2	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	NAPHTHALENE	INTRA-LAB BLANK	91-20-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	N-BUTYLBENZENE	INTRA-LAB BLANK	104-51-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	N-PROPYLBENZENE	INTRA-LAB BLANK	103-65-1	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	O-XYLENE	INTRA-LAB BLANK	95-47-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	P-ISOPROPYLTOLUENE	INTRA-LAB BLANK	99-87-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	SEC-BUTYLBENZENE	INTRA-LAB BLANK	135-98-8	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	STYRENE	INTRA-LAB BLANK	100-42-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TERT-BUTYLBENZENE	INTRA-LAB BLANK	98-06-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TETRACHLOROETHENE	INTRA-LAB BLANK	127-18-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TOLUENE	INTRA-LAB BLANK	108-88-3	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TOLUENE-D8	INTRA-LAB BLANK	2037-26-5	96		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TRANS-1,2-DICHLOROETHENE	INTRA-LAB BLANK	156-60-5	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TRANS-1,3-DICHLOROPROPENE	INTRA-LAB BLANK	10061-02-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TRICHLOROETHENE	INTRA-LAB BLANK	79-01-6	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	TRICHLOROFLUOROMETHANE	INTRA-LAB BLANK	75-69-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
INTRA-LAB BLANK	OV	VINYL CHLORIDE	INTRA-LAB BLANK	75-01-4	1	U	UG/L		C5G010308	STL Pittsburgh	C5G140000224B	
CHECK SAMPLE	OV	1,1,1,2-TETRACHLOROETHANE	CHECK SAMPLE	630-20-6	108		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,1,1-TRICHLOROETHANE	CHECK SAMPLE	71-55-6	97		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,1,2,2-TETRACHLOROETHANE	CHECK SAMPLE	79-34-5	75		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,1,2-TRICHLOROETHANE	CHECK SAMPLE	79-00-5	89		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,1-DICHLOROETHANE	CHECK SAMPLE	75-34-3	86		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,1-DICHLOROETHENE	CHECK SAMPLE	75-35-4	97		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,1-DICHLOROPROPENE	CHECK SAMPLE	563-58-6	86		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2,3-TRICHLOROBENZENE	CHECK SAMPLE	87-61-6	110		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2,3-TRICHLOROPROPANE	CHECK SAMPLE	96-18-4	78		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2,4-TRICHLOROBENZENE	CHECK SAMPLE	120-82-1	114		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2,4-TRIMETHYLBENZENE	CHECK SAMPLE	95-63-6	97		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2-DIBROMO-3-CHLOROPROPANE	CHECK SAMPLE	96-12-8	70		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2-DIBROMOETHANE	CHECK SAMPLE	106-93-4	90		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2-DICHLOROBENZENE	CHECK SAMPLE	95-50-1	89		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2-DICHLOROETHANE	CHECK SAMPLE	107-06-2	92		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2-DICHLOROETHANE-D4	CHECK SAMPLE	17060-07-0	95		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,2-DICHLOROPROPANE	CHECK SAMPLE	78-87-5	85		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,3,5-TRIMETHYLBENZENE	CHECK SAMPLE	108-67-8	99		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,3-DICHLOROBENZENE	CHECK SAMPLE	541-73-1	93		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,3-DICHLOROPROPANE	CHECK SAMPLE	142-28-9	88		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	1,4-DICHLOROBENZENE	CHECK SAMPLE	106-46-7	92		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	2,2-DICHLOROPROPANE	CHECK SAMPLE	594-20-7	91		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	2-CHLOROTOLUENE	CHECK SAMPLE	95-49-8	97		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	4-BROMOFLUOROBENZENE	CHECK SAMPLE	460-00-4	93		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	4-CHLOROTOLUENE	CHECK SAMPLE	106-43-4	96		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	BENZENE	CHECK SAMPLE	71-43-2	90		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	BROMOBENZENE	CHECK SAMPLE	108-86-1	94		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	

SAMPLE														
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.41		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.27		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.16		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.31		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B				1	100		2	MB	87		
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.19		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.43		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.35		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.19		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.4		2	1	100		2	MB	0.51	J	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.25		2	1	100		2	MB	2	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.26		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.13		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.2		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.14		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.085		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.12		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.21		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.18		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B				1	100		2	MB	96		
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.23		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.12		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.22		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.18		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	LCS	108		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.24		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.42		1	1	100		2	LCS	75		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.22		1	1	100		2	LCS	89		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.21		1	1	100		2	LCS	86		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.35		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.29		1	1	100		2	LCS	86		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.32		1	1	100		2	LCS	110		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.25		1	1	100		2	LCS	78		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.4		1	1	100		2	LCS	114		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.099		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.38		1	1	100		2	LCS	70		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.16		1	1	100		2	LCS	90		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.2		1	1	100		2	LCS	89		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	LCS	92		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B				1	100		2	LCS	95		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.17		1	1	100		2	LCS	85		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.1		1	1	100		2	LCS	99		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.098		1	1	100		2	LCS	93		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.14		1	1	100		2	LCS	88		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.2		1	1	100		2	LCS	92		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.35		1	1	100		2	LCS	91		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.14		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B				1	100		2	LCS	93		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.24		1	1	100		2	LCS	96		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.13		1	1	100		2	LCS	90		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.32		1	1	100		2	LCS	94		

SAMPLE	CLASS	[illegible]	[illegible]	CAS	[illegible]	[illegible]	[illegible]	[illegible]	SDG	[illegible]	LAB ID	REC_DATE
CHECK SAMPLE	OV	BROMOCHLOROMETHANE	CHECK SAMPLE	74-97-5	94		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	BROMODICHLOROMETHANE	CHECK SAMPLE	75-27-4	94		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	BROMOFORM	CHECK SAMPLE	75-25-2	115		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	BROMOMETHANE	CHECK SAMPLE	74-83-9	96		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CARBON TETRACHLORIDE	CHECK SAMPLE	56-23-5	121		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CHLOROBENZENE	CHECK SAMPLE	108-90-7	102		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CHLOROETHANE	CHECK SAMPLE	75-00-3	84		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CHLOROFORM	CHECK SAMPLE	67-66-3	87		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CHLOROMETHANE	CHECK SAMPLE	74-87-3	80		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CIS-1,2-DICHLOROETHENE	CHECK SAMPLE	156-59-2	88		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	CIS-1,3-DICHLOROPROPENE	CHECK SAMPLE	10061-01-5	85		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	DIBROMOCHLOROMETHANE	CHECK SAMPLE	124-48-1	106		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	DIBROMOFLUOROMETHANE	CHECK SAMPLE	1868-53-7	91		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	DIBROMOMETHANE	CHECK SAMPLE	74-95-3	82		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	DICHLORODIFLUOROMETHANE	CHECK SAMPLE	75-71-8	81		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	ETHYLBENZENE	CHECK SAMPLE	100-41-4	104		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	HEXACHLOROBUTADIENE	CHECK SAMPLE	87-68-3	166	a	PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	ISOPROPYLBENZENE	CHECK SAMPLE	98-82-8	108		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	METHYLENE CHLORIDE	CHECK SAMPLE	75-09-2	81		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	M-XYLENE & P-XYLENE	CHECK SAMPLE	136777-61-2	102		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	NAPHTHALENE	CHECK SAMPLE	91-20-3	78		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	N-BUTYLBENZENE	CHECK SAMPLE	104-51-8	118		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	N-PROPYLBENZENE	CHECK SAMPLE	103-65-1	99		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	O-XYLENE	CHECK SAMPLE	95-47-6	99		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	P-ISOPROPYLTOLUENE	CHECK SAMPLE	99-87-6	111		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	SEC-BUTYLBENZENE	CHECK SAMPLE	135-98-8	109		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	STYRENE	CHECK SAMPLE	100-42-5	98		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TERT-BUTYLBENZENE	CHECK SAMPLE	98-06-6	106		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TETRACHLOROETHENE	CHECK SAMPLE	127-18-4	112		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TOLUENE	CHECK SAMPLE	108-88-3	97		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TOLUENE-D8	CHECK SAMPLE	2037-26-5	108		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TRANS-1,2-DICHLOROETHENE	CHECK SAMPLE	156-60-5	96		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TRANS-1,3-DICHLOROPROPENE	CHECK SAMPLE	10061-02-6	85		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TRICHLOROETHENE	CHECK SAMPLE	79-01-6	99		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	TRICHLOROFLUOROMETHANE	CHECK SAMPLE	75-69-4	105		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	
CHECK SAMPLE	OV	VINYL CHLORIDE	CHECK SAMPLE	75-01-4	88		PCT_REC		C5G010308	STL Pittsburgh	C5G140000224C	1-Jul-05

SAMPLE	EXTR	ANAL	METHOD	RL	DF	DILFACTOR	PCT MOIST	COMMENTS	QCTIER	QCTYPE	FINAL RESULT	FINAL_QUAL	VALID_COMMENT
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.29	1	1	100		2	LCS	94		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.11	1	1	100		2	LCS	94		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.29	1	1	100		2	LCS	115		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.43	1	1	100		2	LCS	96		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.25	1	1	100		2	LCS	121		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.19	1	1	100		2	LCS	102		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.41	1	1	100		2	LCS	84		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.1	1	1	100		2	LCS	87		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.17	1	1	100		2	LCS	80		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.27	1	1	100		2	LCS	88		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.16	1	1	100		2	LCS	85		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.31	1	1	100		2	LCS	106		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B			1	100		2	LCS	91		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.19	1	1	100		2	LCS	82		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.43	1	1	100		2	LCS	81		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.17	1	1	100		2	LCS	104		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.35	1	1	100		2	LCS	166		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.19	1	1	100		2	LCS	108		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.4	1	1	100		2	LCS	81		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.25	2	1	100		2	LCS	102		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.26	1	1	100		2	LCS	78		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.13	1	1	100		2	LCS	118		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.2	1	1	100		2	LCS	99		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.14	1	1	100		2	LCS	99		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.085	1	1	100		2	LCS	111		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.12	1	1	100		2	LCS	109		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.1	1	1	100		2	LCS	98		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.1	1	1	100		2	LCS	106		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.21	1	1	100		2	LCS	112		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.18	1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B			1	100		2	LCS	108		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.23	1	1	100		2	LCS	96		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.12	1	1	100		2	LCS	85		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.22	1	1	100		2	LCS	99		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.18	1	1	100		2	LCS	105		
CHECK SAMPLE	14-Jul-05	14-Jul-05	8260B	0.17	1	1	100		2	LCS	88		

CASE NARRATIVE

Battelle

STL Lot # C5G060123

Sample Receiving:
STL Pittsburgh received samples for analysis on July 6, 2005. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report and batch QC was completed on these samples, anomalous results will be discussed below.

GC/MS Volatiles:
The method blank for batch 5195224 had methylene chloride detected below the reporting limit but above the MDL. The result was flagged with a "J" qualifier. Any sample associated with this blank that had methylene chloride detected had the result flagged with a "B" qualifier.

The laboratory control standard had hexachlorobutadiene recover high and outside of criteria. All control compounds recovered within limits.

All non-CCC compounds that have >15% RSD were evaluated to see if a better curve could be drawn using a quadratic curve. All compounds <30% RSD will use an average response factor curve if no visible improvement is accomplished using a quadratic curve. A quadratic curve will be used for a compound where it is determined to be the "best-fit" evaluation.

The following compounds had the %D > 25% in the calibration verification standard; but were within expected performance range for these compounds: 1,2-dibromo-3-chloropropane -31.0%, benzene -27.2%, dichlorodifluoromethane 26.4%, hexachlorobutadiene 46.8% and trans-1,3-dichloropropene -26.2%.

NSAMPLE	CLASS	PARAMETER	EPASAMNO	CASNO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE
TB	OV	1,1,1,2-TETRACHLOROETHANE	TB	630-20-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,1,1-TRICHLOROETHANE	TB	71-55-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,1,2,2-TETRACHLOROETHANE	TB	79-34-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,1,2-TRICHLOROETHANE	TB	79-00-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,1-DICHLOROETHANE	TB	75-34-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,1-DICHLOROETHENE	TB	75-35-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,1-DICHLOROPROPENE	TB	563-58-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2,3-TRICHLOROBENZENE	TB	87-61-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2,3-TRICHLOROPROPANE	TB	96-18-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2,4-TRICHLOROBENZENE	TB	120-82-1	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2,4-TRIMETHYLBENZENE	TB	95-63-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2-DIBROMO-3-CHLOROPROPANI	TB	96-12-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2-DIBROMOETHANE	TB	106-93-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2-DICHLOROBENZENE	TB	95-50-1	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2-DICHLOROETHANE	TB	107-06-2	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2-DICHLOROETHANE-D4	TB	17060-07-0	94		PCT_REC		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,2-DICHLOROPROPANE	TB	78-87-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,3,5-TRIMETHYLBENZENE	TB	108-67-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,3-DICHLOROBENZENE	TB	541-73-1	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,3-DICHLOROPROPANE	TB	142-28-9	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	1,4-DICHLOROBENZENE	TB	106-46-7	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	2,2-DICHLOROPROPANE	TB	594-20-7	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	2-CHLOROTOLUENE	TB	95-49-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	4-BROMOFLUOROBENZENE	TB	460-00-4	94		PCT_REC		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	4-CHLOROTOLUENE	TB	106-43-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	BENZENE	TB	71-43-2	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	BROMOBENZENE	TB	108-86-1	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	BROMOCHLOROMETHANE	TB	74-97-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	BROMODICHLOROMETHANE	TB	75-27-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	BROMOFORM	TB	75-25-2	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	BROMOMETHANE	TB	74-83-9	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CARBON TETRACHLORIDE	TB	56-23-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CHLOROBENZENE	TB	108-90-7	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CHLOROETHANE	TB	75-00-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CHLOROFORM	TB	67-66-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CHLOROMETHANE	TB	74-87-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CIS-1,2-DICHLOROETHENE	TB	156-59-2	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	CIS-1,3-DICHLOROPROPENE	TB	10061-01-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	DIBROMOCHLOROMETHANE	TB	124-48-1	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	DIBROMOFLUOROMETHANE	TB	1868-53-7	90		PCT_REC		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	DIBROMOMETHANE	TB	74-95-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	DICHLORODIFLUOROMETHANE	TB	75-71-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	ETHYLBENZENE	TB	100-41-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	HEXACHLOROBUTADIENE	TB	87-68-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	ISOPROPYLBENZENE	TB	98-82-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	METHYLENE CHLORIDE	TB	75-09-2	0.88	J B	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	M-XYLENE & P-XYLENE	TB	136777-61-2	2	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	NAPHTHALENE	TB	91-20-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	N-BUTYLBENZENE	TB	104-51-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	N-PROPYLBENZENE	TB	103-65-1	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	O-XYLENE	TB	95-47-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	P-ISOPROPYLTOLUENE	TB	99-87-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	SEC-BUTYLBENZENE	TB	135-98-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	STYRENE	TB	100-42-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TERT-BUTYLBENZENE	TB	98-06-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TETRACHLOROETHENE	TB	127-18-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TOLUENE	TB	108-88-3	0.41	J	UG/L		C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05

NSAMPLE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TB	14-Jul-05	8260B	0.17	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.24	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.42	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.22	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.21	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.35	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.29	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.32	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.25	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.4	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.38	1	1	100		2	N	1	UJ	
TB	14-Jul-05	8260B	0.16	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.2	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B			1	100		2	N	94		
TB	14-Jul-05	8260B	0.17	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.14	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.2	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.35	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.14	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B			1	100		2	N	94		
TB	14-Jul-05	8260B	0.24	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.13	1	1	100		2	N	1	UJ	
TB	14-Jul-05	8260B	0.32	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.29	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.11	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.29	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.43	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.25	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.19	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.41	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.17	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.27	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.16	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.31	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B			1	100		2	N	90		
TB	14-Jul-05	8260B	0.19	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.43	1	1	100		2	N	1	UJ	
TB	14-Jul-05	8260B	0.17	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.35	1	1	100		2	N	1	UJ	
TB	14-Jul-05	8260B	0.19	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.4	2	1	100		2	N	0.88	J	
TB	14-Jul-05	8260B	0.25	2	1	100		2	N	2	U	
TB	14-Jul-05	8260B	0.26	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.13	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.2	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.14	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.09	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.12	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.1	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.21	1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.18	1	1	100		2	N	0.41	J	

NSAMPLE	CLASS	PARAMETER	PARAMNO	CASN	RESULT	QUAL	UNIT	CARRIER	LABORATORY	LABID	REC_DATE	EXTR_DATE
TB	OV	TOLUENE-D8	TB	2037-26-5	104		PCT_REC	C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TRANS-1,2-DICHLOROETHENE	TB	156-60-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TRANS-1,3-DICHLOROPROPENE	TB	10061-02-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TRICHLOROETHENE	TB	79-01-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	TRICHLOROFLUOROMETHANE	TB	75-69-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
TB	OV	VINYL CHLORIDE	TB	75-01-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G060123001	7-Jul-05	14-Jul-05
INTRA-LAB BLANK	OV	1,1,1,2-TETRACHLOROETHANE	INTRA-LAB BLANK	630-20-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,1,1-TRICHLOROETHANE	INTRA-LAB BLANK	71-55-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,1,2,2-TETRACHLOROETHANE	INTRA-LAB BLANK	79-34-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,1,2-TRICHLOROETHANE	INTRA-LAB BLANK	79-00-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,1-DICHLOROETHANE	INTRA-LAB BLANK	75-34-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,1-DICHLOROETHENE	INTRA-LAB BLANK	75-35-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,1-DICHLOROPROPENE	INTRA-LAB BLANK	563-58-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2,3-TRICHLOROBENZENE	INTRA-LAB BLANK	87-61-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2,3-TRICHLOROPROPANE	INTRA-LAB BLANK	96-18-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2,4-TRICHLOROBENZENE	INTRA-LAB BLANK	120-82-1	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2,4-TRIMETHYLBENZENE	INTRA-LAB BLANK	95-63-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2-DIBROMO-3-CHLOROPROPAN	INTRA-LAB BLANK	96-12-8	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2-DIBROMOETHANE	INTRA-LAB BLANK	106-93-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2-DICHLOROBENZENE	INTRA-LAB BLANK	95-50-1	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2-DICHLOROETHANE	INTRA-LAB BLANK	107-06-2	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2-DICHLOROETHANE-D4	INTRA-LAB BLANK	17060-07-0	95		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,2-DICHLOROPROPANE	INTRA-LAB BLANK	78-87-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,3,5-TRIMETHYLBENZENE	INTRA-LAB BLANK	108-67-8	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,3-DICHLOROBENZENE	INTRA-LAB BLANK	541-73-1	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,3-DICHLOROPROPANE	INTRA-LAB BLANK	142-28-9	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	1,4-DICHLOROBENZENE	INTRA-LAB BLANK	106-46-7	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	2,2-DICHLOROPROPANE	INTRA-LAB BLANK	594-20-7	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	2-CHLOROTOLUENE	INTRA-LAB BLANK	95-49-8	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	4-BROMOFLUOROBENZENE	INTRA-LAB BLANK	460-00-4	84		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	4-CHLOROTOLUENE	INTRA-LAB BLANK	106-43-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	BENZENE	INTRA-LAB BLANK	71-43-2	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	BROMOBENZENE	INTRA-LAB BLANK	108-86-1	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	BROMOCHLOROMETHANE	INTRA-LAB BLANK	74-97-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	BROMODICHLOROMETHANE	INTRA-LAB BLANK	75-27-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	BROMOFORM	INTRA-LAB BLANK	75-25-2	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	BROMOMETHANE	INTRA-LAB BLANK	74-83-9	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CARBON TETRACHLORIDE	INTRA-LAB BLANK	56-23-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CHLOROBENZENE	INTRA-LAB BLANK	108-90-7	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CHLOROETHANE	INTRA-LAB BLANK	75-00-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CHLOROFORM	INTRA-LAB BLANK	67-66-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CHLOROMETHANE	INTRA-LAB BLANK	74-87-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CIS-1,2-DICHLOROETHENE	INTRA-LAB BLANK	156-59-2	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	CIS-1,3-DICHLOROPROPENE	INTRA-LAB BLANK	10061-01-5	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	DIBROMOCHLOROMETHANE	INTRA-LAB BLANK	124-48-1	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	DIBROMOFLUOROMETHANE	INTRA-LAB BLANK	1868-53-7	87		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	DIBROMOMETHANE	INTRA-LAB BLANK	74-95-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	DICHLORODIFLUOROMETHANE	INTRA-LAB BLANK	75-71-8	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	ETHYLBENZENE	INTRA-LAB BLANK	100-41-4	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	HEXACHLOROBUTADIENE	INTRA-LAB BLANK	87-68-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	ISOPROPYLBENZENE	INTRA-LAB BLANK	98-82-8	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	METHYLENE CHLORIDE	INTRA-LAB BLANK	75-09-2	0.51	J	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	M-XYLENE & P-XYLENE	INTRA-LAB BLANK	136777-61-	2	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	NAPHTHALENE	INTRA-LAB BLANK	91-20-3	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	N-BUTYLBENZENE	INTRA-LAB BLANK	104-51-8	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	N-PROPYLBENZENE	INTRA-LAB BLANK	103-65-1	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	O-XYLENE	INTRA-LAB BLANK	95-47-6	1	U	UG/L	C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05

NSAMPLE	ANALDATE	METHOD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	COMMENT
TB	14-Jul-05	8260B				1	100		2	N	104		
TB	14-Jul-05	8260B	0.23		1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.12		1	1	100		2	N	1	UJ	
TB	14-Jul-05	8260B	0.22		1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.18		1	1	100		2	N	1	U	
TB	14-Jul-05	8260B	0.17		1	1	100		2	N	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.24		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.42		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.22		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.21		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.35		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.29		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.32		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.25		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.4		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.38		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.16		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.2		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B				1	100		2	MB	95		
INTRA-LAB BLANK	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.14		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.2		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.35		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.14		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B				1	100		2	MB	84		
INTRA-LAB BLANK	14-Jul-05	8260B	0.24		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.13		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.32		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.29		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.11		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.29		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.43		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.25		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.19		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.41		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.27		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.16		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.31		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B				1	100		2	MB	87		
INTRA-LAB BLANK	14-Jul-05	8260B	0.19		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.43		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.35		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.19		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.4		2	1	100		2	MB	0.51	J	
INTRA-LAB BLANK	14-Jul-05	8260B	0.25		2	1	100		2	MB	2	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.26		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.13		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.2		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.14		1	1	100		2	MB	1	U	

NSAMPTYP	CLASS	PARAMETER	FASAMNO	CAS_NO	LAB_RESULT	QUAL	UNITS	CASE	SDG	LABORATORY	LAB_ID	REC_DATE	EXTR_DATE
INTRA-LAB BLANK	OV	P-ISOPROPYLTOLUENE	INTRA-LAB BLANK	99-87-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	SEC-BUTYLBENZENE	INTRA-LAB BLANK	135-98-8	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	STYRENE	INTRA-LAB BLANK	100-42-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TERT-BUTYLBENZENE	INTRA-LAB BLANK	98-06-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TETRACHLOROETHENE	INTRA-LAB BLANK	127-18-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TOLUENE	INTRA-LAB BLANK	108-88-3	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TOLUENE-D8	INTRA-LAB BLANK	2037-26-5	96		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TRANS-1,2-DICHLOROETHENE	INTRA-LAB BLANK	156-60-5	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TRANS-1,3-DICHLOROPROPENE	INTRA-LAB BLANK	10061-02-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TRICHLOROETHENE	INTRA-LAB BLANK	79-01-6	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	TRICHLOROFLUOROMETHANE	INTRA-LAB BLANK	75-69-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
INTRA-LAB BLANK	OV	VINYL CHLORIDE	INTRA-LAB BLANK	75-01-4	1	U	UG/L		C5G06012	STL Pittsburgh	C5G140000224B		14-Jul-05
CHECK SAMPLE	OV	1,1,1,2-TETRACHLOROETHANE	CHECK SAMPLE	630-20-6	108		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,1,1-TRICHLOROETHANE	CHECK SAMPLE	71-55-6	97		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,1,2,2-TETRACHLOROETHANE	CHECK SAMPLE	79-34-5	75		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,1,2-TRICHLOROETHANE	CHECK SAMPLE	79-00-5	89		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,1-DICHLOROETHANE	CHECK SAMPLE	75-34-3	86		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,1-DICHLOROETHENE	CHECK SAMPLE	75-35-4	97		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,1-DICHLOROPROPENE	CHECK SAMPLE	563-58-6	86		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2,3-TRICHLOROBENZENE	CHECK SAMPLE	87-61-6	110		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2,3-TRICHLOROPROPANE	CHECK SAMPLE	96-18-4	78		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2,4-TRICHLOROBENZENE	CHECK SAMPLE	120-82-1	114		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2,4-TRIMETHYLBENZENE	CHECK SAMPLE	95-63-6	97		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2-DIBROMO-3-CHLOROPROPANI	CHECK SAMPLE	96-12-8	70		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2-DIBROMOETHANE	CHECK SAMPLE	106-93-4	90		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2-DICHLOROBENZENE	CHECK SAMPLE	95-50-1	89		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2-DICHLOROETHANE	CHECK SAMPLE	107-06-2	92		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2-DICHLOROETHANE-D4	CHECK SAMPLE	17060-07-0	95		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,2-DICHLOROPROPANE	CHECK SAMPLE	78-87-5	85		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,3,5-TRIMETHYLBENZENE	CHECK SAMPLE	108-67-8	99		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,3-DICHLOROBENZENE	CHECK SAMPLE	541-73-1	93		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,3-DICHLOROPROPANE	CHECK SAMPLE	142-28-9	88		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	1,4-DICHLOROBENZENE	CHECK SAMPLE	106-46-7	92		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	2,2-DICHLOROPROPANE	CHECK SAMPLE	594-20-7	91		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	2-CHLOROTOLUENE	CHECK SAMPLE	95-49-8	97		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	4-BROMOFLUOROBENZENE	CHECK SAMPLE	460-00-4	93		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	4-CHLOROTOLUENE	CHECK SAMPLE	106-43-4	96		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	BENZENE	CHECK SAMPLE	71-43-2	90		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	BROMOBENZENE	CHECK SAMPLE	108-86-1	94		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	BROMOCHLOROMETHANE	CHECK SAMPLE	74-97-5	94		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	BROMODICHLOROMETHANE	CHECK SAMPLE	75-27-4	94		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	BROMOFORM	CHECK SAMPLE	75-25-2	115		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	BROMOMETHANE	CHECK SAMPLE	74-83-9	96		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CARBON TETRACHLORIDE	CHECK SAMPLE	56-23-5	121		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CHLOROBENZENE	CHECK SAMPLE	108-90-7	102		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CHLOROETHANE	CHECK SAMPLE	75-00-3	84		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CHLOROFORM	CHECK SAMPLE	67-66-3	87		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CHLOROMETHANE	CHECK SAMPLE	74-87-3	80		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CIS-1,2-DICHLOROETHENE	CHECK SAMPLE	156-59-2	88		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	CIS-1,3-DICHLOROPROPENE	CHECK SAMPLE	10061-01-5	85		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	DIBROMOCHLOROMETHANE	CHECK SAMPLE	124-48-1	106		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	DIBROMOFLUOROMETHANE	CHECK SAMPLE	1868-53-7	91		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	DIBROMOMETHANE	CHECK SAMPLE	74-95-3	82		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	DICHLORODIFLUOROMETHANE	CHECK SAMPLE	75-71-8	81		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	ETHYLBENZENE	CHECK SAMPLE	100-41-4	104		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	HEXACHLOROBUTADIENE	CHECK SAMPLE	87-68-3	166	a	PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05
CHECK SAMPLE	OV	ISOPROPYLBENZENE	CHECK SAMPLE	98-82-8	108		PCT_REC		C5G06012	STL Pittsburgh	C5G140000224C		14-Jul-05

SAMPLE	ANALYSIS DATE	METHOD	RESULT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INTRA-LAB BLANK	14-Jul-05	8260B	0.09		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.12		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.1		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.21		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.18		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B				1	100		2	MB	96		
INTRA-LAB BLANK	14-Jul-05	8260B	0.23		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.12		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.22		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.18		1	1	100		2	MB	1	U	
INTRA-LAB BLANK	14-Jul-05	8260B	0.17		1	1	100		2	MB	1	U	
CHECK SAMPLE	14-Jul-05	8260B	0.17		1	1	100		2	LCS	108		
CHECK SAMPLE	14-Jul-05	8260B	0.24		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	8260B	0.42		1	1	100		2	LCS	75		
CHECK SAMPLE	14-Jul-05	8260B	0.22		1	1	100		2	LCS	89		
CHECK SAMPLE	14-Jul-05	8260B	0.21		1	1	100		2	LCS	86		
CHECK SAMPLE	14-Jul-05	8260B	0.35		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	8260B	0.29		1	1	100		2	LCS	86		
CHECK SAMPLE	14-Jul-05	8260B	0.32		1	1	100		2	LCS	110		
CHECK SAMPLE	14-Jul-05	8260B	0.25		1	1	100		2	LCS	78		
CHECK SAMPLE	14-Jul-05	8260B	0.4		1	1	100		2	LCS	114		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	8260B	0.38		1	1	100		2	LCS	70		
CHECK SAMPLE	14-Jul-05	8260B	0.16		1	1	100		2	LCS	90		
CHECK SAMPLE	14-Jul-05	8260B	0.2		1	1	100		2	LCS	89		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2	LCS	92		
CHECK SAMPLE	14-Jul-05	8260B				1	100		2	LCS	95		
CHECK SAMPLE	14-Jul-05	8260B	0.17		1	1	100		2	LCS	85		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2	LCS	99		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2	LCS	93		
CHECK SAMPLE	14-Jul-05	8260B	0.14		1	1	100		2	LCS	88		
CHECK SAMPLE	14-Jul-05	8260B	0.2		1	1	100		2	LCS	92		
CHECK SAMPLE	14-Jul-05	8260B	0.35		1	1	100		2	LCS	91		
CHECK SAMPLE	14-Jul-05	8260B	0.14		1	1	100		2	LCS	97		
CHECK SAMPLE	14-Jul-05	8260B				1	100		2	LCS	93		
CHECK SAMPLE	14-Jul-05	8260B	0.24		1	1	100		2	LCS	96		
CHECK SAMPLE	14-Jul-05	8260B	0.13		1	1	100		2	LCS	90		
CHECK SAMPLE	14-Jul-05	8260B	0.32		1	1	100		2	LCS	94		
CHECK SAMPLE	14-Jul-05	8260B	0.29		1	1	100		2	LCS	94		
CHECK SAMPLE	14-Jul-05	8260B	0.11		1	1	100		2	LCS	94		
CHECK SAMPLE	14-Jul-05	8260B	0.29		1	1	100		2	LCS	115		
CHECK SAMPLE	14-Jul-05	8260B	0.43		1	1	100		2	LCS	96		
CHECK SAMPLE	14-Jul-05	8260B	0.25		1	1	100		2	LCS	121		
CHECK SAMPLE	14-Jul-05	8260B	0.19		1	1	100		2	LCS	102		
CHECK SAMPLE	14-Jul-05	8260B	0.41		1	1	100		2	LCS	84		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2	LCS	87		
CHECK SAMPLE	14-Jul-05	8260B	0.17		1	1	100		2	LCS	80		
CHECK SAMPLE	14-Jul-05	8260B	0.27		1	1	100		2	LCS	88		
CHECK SAMPLE	14-Jul-05	8260B	0.16		1	1	100		2	LCS	85		
CHECK SAMPLE	14-Jul-05	8260B	0.31		1	1	100		2	LCS	106		
CHECK SAMPLE	14-Jul-05	8260B				1	100		2	LCS	91		
CHECK SAMPLE	14-Jul-05	8260B	0.19		1	1	100		2	LCS	82		
CHECK SAMPLE	14-Jul-05	8260B	0.43		1	1	100		2	LCS	81		
CHECK SAMPLE	14-Jul-05	8260B	0.17		1	1	100		2	LCS	104		
CHECK SAMPLE	14-Jul-05	8260B	0.35		1	1	100		2	LCS	166		
CHECK SAMPLE	14-Jul-05	8260B	0.19		1	1	100		2	LCS	108		

NSAMPLE	CLASS	PARAMETER	ANO	CASNO	RADIGEN	DIAL	UNITS	CASE_ID	LABORATORY	LAB_ID		REC_DATE	EXTR_DATE
CHECK SAMPLE	OV	METHYLENE CHLORIDE	CHECK SAMPLE	75-09-2	81		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	M-XYLENE & P-XYLENE	CHECK SAMPLE	136777-61-	102		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	NAPHTHALENE	CHECK SAMPLE	91-20-3	78		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	N-BUTYLBENZENE	CHECK SAMPLE	104-51-8	118		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	N-PROPYLBENZENE	CHECK SAMPLE	103-65-1	99		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	O-XYLENE	CHECK SAMPLE	95-47-6	99		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	P-ISOPROPYLTOLUENE	CHECK SAMPLE	99-87-6	111		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	SEC-BUTYLBENZENE	CHECK SAMPLE	135-98-8	109		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	STYRENE	CHECK SAMPLE	100-42-5	98		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TERT-BUTYLBENZENE	CHECK SAMPLE	98-06-6	106		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TETRACHLOROETHENE	CHECK SAMPLE	127-18-4	112		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TOLUENE	CHECK SAMPLE	108-88-3	97		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TOLUENE-D8	CHECK SAMPLE	2037-26-5	108		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TRANS-1,2-DICHLOROETHENE	CHECK SAMPLE	156-60-5	96		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TRANS-1,3-DICHLOROPROPENE	CHECK SAMPLE	10061-02-6	85		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TRICHLOROETHENE	CHECK SAMPLE	79-01-6	99		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	TRICHLOROFLUOROMETHANE	CHECK SAMPLE	75-69-4	105		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05
CHECK SAMPLE	OV	VINYL CHLORIDE	CHECK SAMPLE	75-01-4	88		PCT_REC	C5G06012	STL Pittsburgh	C5G140000224C			14-Jul-05

SAMPLE	ANALYZED	METHOD	RL						QC TYPE	RESULT	FINAL QUAL	VALID COMMENT
CHECK SAMPLE	14-Jul-05	8260B	0.4		1	1	100		2 LCS	81		
CHECK SAMPLE	14-Jul-05	8260B	0.25		2	1	100		2 LCS	102		
CHECK SAMPLE	14-Jul-05	8260B	0.26		1	1	100		2 LCS	78		
CHECK SAMPLE	14-Jul-05	8260B	0.13		1	1	100		2 LCS	118		
CHECK SAMPLE	14-Jul-05	8260B	0.2		1	1	100		2 LCS	99		
CHECK SAMPLE	14-Jul-05	8260B	0.14		1	1	100		2 LCS	99		
CHECK SAMPLE	14-Jul-05	8260B	0.09		1	1	100		2 LCS	111		
CHECK SAMPLE	14-Jul-05	8260B	0.12		1	1	100		2 LCS	109		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2 LCS	98		
CHECK SAMPLE	14-Jul-05	8260B	0.1		1	1	100		2 LCS	106		
CHECK SAMPLE	14-Jul-05	8260B	0.21		1	1	100		2 LCS	112		
CHECK SAMPLE	14-Jul-05	8260B	0.18		1	1	100		2 LCS	97		
CHECK SAMPLE	14-Jul-05	8260B				1	100		2 LCS	108		
CHECK SAMPLE	14-Jul-05	8260B	0.23		1	1	100		2 LCS	96		
CHECK SAMPLE	14-Jul-05	8260B	0.12		1	1	100		2 LCS	85		
CHECK SAMPLE	14-Jul-05	8260B	0.22		1	1	100		2 LCS	99		
CHECK SAMPLE	14-Jul-05	8260B	0.18		1	1	100		2 LCS	105		
CHECK SAMPLE	14-Jul-05	8260B	0.17		1	1	100		2 LCS	88		

Section 3
Third Party Validation Reports

Steve Stodola
US EPA Approval Signature

10/7/05
Date

October 3, 2005
Revised: October 6, 2005

Ms. Christine Clark
Regional Sample Control Custodian
Office of Environmental Measurement and Evaluation
U.S. EPA Region I
11 Technology Drive
North Chelmsford, Massachusetts 01863

Re: Task Order No. 024, Task No. 2, TDF No. 1880
Case No. Centredale SPMD, SDG No. 50971-19 D/F
Battelle - Columbus, Ohio
Centredale Manor Site - North Providence, RI

TCDD: 11/SPMD in water/ column	CMS-SPMD5-W-01, CMS-SPMD5-W-02, CMS-SPMD4-W-01, CMS-SPMD4-W-02, CMS-SPMD3-W-01, CMS-SPMD3-W-02, CMS-SPMD2-W-01, CMS-SPMD2-W-02, CMS-SPMD1-W-01, CMS-SPMD1-W-02, CMS-SPMD-MW05S-01
5/SPMD in sediment/	CMS-SPMD5-S-01, CMS-SPMD4-S-01, CMS-SPMD3-S-01, CMS-SPMD2-S-01, CMS-SPMD1-S-01
2/Trip Blanks/	Day Zero, Trip Blank

Dear Ms. Clark:

A Tier III data validation was performed on the 2378-TCDD analytical data for sixteen Semi-permeable Member Device (SPMD) samples and two SPMD trip blanks collected by Battelle for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The samples were analyzed according to EPA Method 1613B, September 15, 1997. The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (dated March 2005) and the Final Work Plan for Groundwater, Semi-Permeable Membrane Device (SPMD) and Sediment Collections (dated April 2005) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1613B, September 15, 1997, defaulting next to Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation

SOP ESAT-01-0007 (01/08/03). The data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
	•	Data Completeness (Tier I)
*	•	Preservation and Technical Holding Times
NA	•	PE Samples/Accuracy Check
*	•	Window Defining Mix
*	•	Initial and Continuing Calibrations
*	•	Chromatographic Resolution
*	•	Instrument Sensitivity Check
	•	Blanks
NA	•	Matrix Spike/Matrix Spike Duplicate
*	•	Laboratory Control Sample
	•	Field Replicates
*	•	Field Surrogate Standard
*	•	Internal Standards
*	•	Sample Analysis and Identification
*	•	Sample Quantitation
*	•	Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
	•	2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity
*	•	System Performance

* - All criteria were met for this parameter.
NA - A PE sample and Matrix Spike/Matrix Spike Duplicate were included in the sediment SDG 50971-29 as noted in the Final Work Plan.

<u>The following information was used to generate the Data Validation Memorandum attachments:</u>

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

<u>Overall Evaluation of Data and Potential Usability Issues</u>

The following is a summary of the site investigation/assessment objectives as found in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005):

- To generate data of quality sufficient to define where the dioxin contamination is located in sediments laterally and vertically so that decisions can be made about the remedial alternatives that would be undertaken in the clean up of the site.

Two blanks were used for this project. The Day Zero blank was taken to the field in a sealed

container and returned without opening it. The Trip Blank container was opened in the field during deployment and retrieval of the sampling devices. 2378-TCDD was detected in the SPMD trip blank at a concentration greater than 16 times the Reporting Limit (RL). A blank action level is calculated at five times the amount found in the trip blank. If the analyte concentrations in the field samples are less than the corresponding blank action level, then the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.

Four of the 2378-TCDD field sample results were well above the blank action level and are usable for their intended objective. One 2378-TCDD result (CMS-SPMD2-W-01) was slightly above the blank action level. However, its associated duplicate sample was not in agreement - 552 pg compared to 87 pg (146% RPD). Therefore, these results were estimated (J) to highlight the uncertainty in both the values. The remaining 2378-TCDD results were below the blank action limit and were reported as non-detects (U). At levels below the blank action level, it is difficult to determine whether the 2378-TCDD results came from the media in which the SPMDs were deployed or from the source that contaminated the trip blank. The usability of these low level results may be compromised by the contamination and evaluation by the field sampler is advised. See the following discussion for more details.

Data Completeness (Tier I)

The following data or information in the data package had discrepancies and/or were missing:

1. The laboratory was asked to provide information on "Sample Zero" since there was no detail in the data package or in the Final Work Plan in regards to this particular sample.

2. There were no sampling dates for the "Trip Blank" and "Sample Zero" on the Chain-of-Custody (C-o-C) and on the tabulated forms. The laboratory was asked to submit this information.

3. The laboratory was asked to provide QC limits for evaluating the SPMD replicate results.

4. The sample number CMS-SPMD1-S-01 (collected on 6/30/05 at 11:38) was incorrectly recorded as CMS-SPMD2-S-01 on the C-o-C. The laboratory was asked to submit a corrected C-o-C.

The above items were requested via the TOPO on August 26, 2005. The laboratory's response was received via TOPO on September 15, 2005. All items were adequately addressed.

Blanks

All of the blanks associated with this SDG were evaluated for possible sources of contamination. The following table lists the highest concentration of contamination that was detected in the blanks. The table lists the action levels and the affected samples:

- Trip Blanks

Congener	Type of Blank	Blank Concentration pg (total)	Action Level pg (total)	Affected Samples
2378-TCDD	Trip Blank* (6/30/05)	83.37	417	Day Zero, CMS-SPMD5-W-01, CMS-SPMD5-W-02, CMS-SPMD5-S-01, CMS-SPMD4-W-01, CMS-SPMD4-W-02, CMS-SPMD3-W-01, CMS-SPMD3-W-02, CMS-SPMD2-W-02, CMS-SPMD1-W-01, CMS-SPMD1-W-02, CMS-SPMD1-S-01

* Unexposed SPMD sampling device that is not removed from the pre-cleaned, secure container. However, the container was opened during deployment and retrieval of the field samples.

Blank actions are based on Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 and EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/08/03) criteria. Blank action levels are calculated as five times the highest concentration reported in any blank for 2378-TCDD. The positive sample results that are less than the action level are reported as non-detects (U) at the reported concentration on the Data Summary Table.

Field Replicates

Each of the five large sampling cages contained four SPMDs which were combined into two analytical samples creating five field replicate pairs. The following five field replicate pairs were evaluated for this SDG: CMS-SPMD5-W-01/CMS-SPMD5-W-02, CMS-SPMD4-W-01/CMS-SPMD4-W-02, CMS-SPMD3-W-01/CMS-SPMD3-W-02, CMS-SPMD2-W-01/CMS-SPMD2-W-02, and CMS-SPMD1-W-01/CMS-SPMD1-W-02.

The tables below summarize the field replicate results which did not meet the Relative Percent Difference (RPD) < 50% duplicate criterion of for a solid matrix as specified in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (dated March 2005).

CMS-SPMD2-W-01/CMS-SPMD2-W-02:

Congener	CMS-SPMD2-W-01	CMS-SPMD2-W-02	RPD	Action		Affected Samples
	Sample Conc. pg (total)	Replicate Conc. pg (total)		Positive Detects	Non-Detects	
2378-TCDD	551.95	86.93 (U)*	146	J	UJ	CMS-SPMD2-W-01, CMS-SPMD2-W-02

* The positive result was reported as non-detect (U) on the Data Summary Table due to trip blank contamination.

The positive and nondetected results for 2378-TCDD are estimated (J, UJ) in samples CMS-SPMD2-W-01 and CMS-SPMD2-W-02 since the field replicate precision is outside the criterion.

CMS-SPMD1-W-01/CMS-SPMD1-W-02:

Congener	CMS-SPMD1-W-01	CMS-SPMD1-W-02	RPD	Action		Affected Samples
	Sample Conc. pg (total)	Replicate Conc. pg (total)		Positive Detects	Non-Detects	
2378-TCDD	154.36 (U)*	13.21 (U)*	168	J	UJ	CMS-SPMD1-W-01, CMS-SPMD1-W-02

* The positive result was reported as non-detect (U) on the Data Summary Table due to trip blank contamination.

The positive results for 2378-TCDD reported as non-detects due to blank contamination are estimated (UJ) in samples CMS-SPMD1-W-01 and CMS-SPMD1-W-02 since the field replicate precision is outside the criterion.

2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. As a result, the TE values in the Data Summary Table differ from the values reported by the laboratory. The validated data accounts for blank contamination. The TEF values used in the Data Summary Table correspond to the TEF values in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.

System Performance

No trends noted.

Very truly yours,

LOCKHEED ENVIRONMENTAL

Maria E. Baca
Senior Scientist

Louis Macri
ESAT Program Manager

cc: Anna Krasko, EPA RPM (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
Communications
Field Notes

Table I
Recommendation Summary Table for 2378-TCDD
Centredale Manor Site
Case No. Centredale SPMD, SDG No. 50971-19 D/F

Sample Nos.	Day Zero	Trip Blank	CMS-SPMD5-W-01	CMS-SPMD5-W-02	CMS-SPMD5-S-01	CMS-SPMD4-W-01	CMS-SPMD4-W-02	CMS-SPMD4-S-01	CMS-SPMD3-W-01
Congener									
2378-TCDD	J[1]	A	J[1]	J[1]	J[1]	J[1]	J[1]	A	J[1]

Sample Nos.	CMS-SPMD3-W-02	CMS-SPMD3-S-01	CMS-SPMD2-W-01	CMS-SPMD2-W-02	CMS-SPMD2-S-01	CMS-SPMD1-W-01	CMS-SPMD1-W-02	CMS-SPMD1-S-01	CMS-SPMD-MW05S-01
Congener									
2378-TCDD	J[1]	A	J[2]	J[1,2]	A	J[1,2]	J[1,2]	J[1]	A

Table I
Recommendation Summary Table for Dioxins

A	-	Accept results.
J[1]	-	Trip blank contamination: positive sample results less than the blank action level are reported as non-detects (U) at the concentration reported.
J[2]	-	Field replicate precision outside criterion: J detects and UJ non-detects.

EPA-NE - Data Validation Worksheet

Overall Evaluation of Data - Data Validation Memorandum - Table II

DIOXIN ANALYSIS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability	Potential Usability Issues
		Analytical Error	Sampling Error*		
The following is a summary of the site investigation/assessment objectives as found in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005): To generate data of quality sufficient to define where the dioxin contamination is located in sediments laterally and vertically so that decisions can be made about the remedial alternatives that would be undertaken in the clean up of the site.	Yes, Sampling Method appropriate for all samples Yes, Analytical Method appropriate for all samples.	Refer to qualification in R/S Key on Table I: NA	Refer to qualification in R/S Key on Table I: J[1,2]	**	Two blanks were used for this project. The Day Zero blank was taken to the field in a sealed container and returned without opening it. The Trip Blank container was opened in the field during deployment and retrieval of the sampling devices. 2378-TCDD was detected in the SPMD trip blank at a concentration greater than 16 times the Reporting Limit (RL). A blank action level is calculated at five times the amount found in the trip blank. If the analyte concentrations in the field samples are less than the corresponding blank action level, then the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination. Four of the 2378-TCDD field sample results were well above the blank action level and are usable for their intended objective. One 2378-TCDD result (CMS-SPMD2-W-01) was slightly above the blank action level. However, its associated duplicate sample was not in agreement - 552 pg compared to 87 pg (146% RPD). Therefore, these results were estimated (J) to highlight the uncertainty in both the values. The remaining 2378-TCDD results were below the blank action limit and were reported as non-detects (U). At levels below the blank action level, it is difficult to determine whether the 2378-TCDD results came from the media in which the SPMDs were deployed or from the source that contaminated the trip blank. The usability of these low level results may be compromised by the contamination and evaluation by the field sampler is advised. See the discussion in the data validation memorandum for more details.

* The evaluation of "sampling error" cannot be completely assessed in the data validation.

** Sampling variability is not assessed in data validation.

Validator: Marie Bare

Date: 10/6/05

Summary Table
2378-TCDD Analysis - SPMD Samples (pg, total)

SITE: Centredale Manor - N. Providence, RI
CASE NO. Centredale SPMD; SDG NO: 50971-19 D/F
LABORATORY: Battelle - Columbus, Ohio

SAMPLE NUMBER:	Toxicity Equivalency Factors (1)	Day Zero		Trip Blank		CMS-SPMD5-W-01		CMS-SPMD5-W-02		CMS-SPMD5-S-01		CMS-SPMD4-W-01	
STATION LOCATION:		Day Zero		Trip Blank		SPMD5, Downstream, water column		SPMD5, Downstream, water column		SPMD5, Downstream, sediment		SPMD4, Discharge zone 3, water column	
MATRIX:		SPMD		SPMD		SPMD		SPMD		SPMD		SPMD	
TCDD CONC		*pg, total*	*DL/EMPC**	*pg, total*	*DL/EMPC**	*pg, total*	*DL/EMPC**	*pg, total*	*DL/EMPC**	*pg, total*	*DL/EMPC**	*pg, total*	*DL/EMPC**
2,3,7,8-TCDD	1.0000	U	7.56	83.37		U	114.84	U	131.98	U	160.14	U	74.03
TOXIC EQUIVALENT(1)		0.0 U		83		0.0 U		0.0 U		0.0 U		0.0 U	
DILUTION FACTOR		1.0		1.0		1.0		1.0		4.0		1.0	
DATE SAMPLED		06/30/2005		06/30/2005		06/30/2005		06/30/2005		06/30/2005		06/30/2005	
DATE OF RECEIPT		07/06/2005		07/06/2005		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
SAMPLE EXTRACTION DATE		07/12/2005		07/12/2005		07/12/2005		07/12/2005		07/12/2005		07/12/2005	
ANALYSIS DATE		07/29/2005		07/29/2005		07/28/2005		07/29/2005		08/02/2005		07/29/2005	
LAB SAMPLE ID		50226-88-18		50226-88-19		50226-88-02		50226-88-03		50226-88-04		50226-88-05	

* = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "*". The DL values are unmarked. The EMPC values are not qualified with a "J", since they are already estimated Concentrations reported by the laboratory below the lowest standard are flagged (J) on the Data summary Table as estimated values. All other necessary qualifications are defined in Table I.

(1) = The Toxic Equivalent concentration is calculated with the Toxicity Equivalency Factors (TEFs) found in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and *Wildlife*", *Environmental Health Perspectives*, Volume 106 (12), December 1998, Table 1, page 778.

Data Summary Table.
2378-TCDD Analysis - SPMD Samples (pg, total)

SITE. Centredale Manor - N. Providence, RI
CASE NO. Centredale SPMD; SDG NO: 50971-19 D/F
LABORATORY: Battelle - Columbus, Ohio

SAMPLE NUMBER	Toxicity Equivalency Factors (1)	CMS-SPMD4-W-02		CMS-SPMD4-S-01		CMS-SPMD3-W-01		CMS-SPMD3-W-02		CMS-SPMD3-S-01		CMS-SPMD2-W-01	
STATION LOCATION		SPMD4, Discharge zone 3, water column		SPMD4, Discharge zone 3, sediment		SPMD3, Discharge zone 2, water column		SPMD3, Discharge zone 2, water column		SPMD3, Discharge zone 2, sediment		SPMD2, Discharge zone 1 water column	
MATRIX		SPMD		SPMD		SPMD		SPMD		SPMD		SPMD	
TCDD CONC.		pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*
2,3,7,8-TCDD	1.0000	U	74.93	2905.17		U	116.52	U	79.38	47944.99		551.95 J	
TOXIC EQUIVALENT(1)		0.0 U		2900		0.0 U		0.0 U		48000		550 J	
DILUTION FACTOR		1.0		1.0		1.0		1.0		10.0		1.0	
DATE SAMPLED		06/30/2005		06/30/2005		06/30/2005		06/30/2005		06/30/2005		06/30/2005	
DATE OF RECEIPT		07/06/2005		07/06/2005		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
SAMPLE EXTRACTION DATE		07/12/2005		07/12/2005		07/12/2005		07/12/2005		07/12/2005		07/12/2005	
ANALYSIS DATE:		07/29/2005		07/29/2005		07/29/2005		07/29/2005		08/02/2005		07/29/2005	
LAB SAMPLE ID.		50226-88-06		50226-88-07		50226-88-08		50226-88-09		50226-88-10		50226-88-11	

* = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "*". The DL values are unmarked. The EMPC values are not qualified with a "J", since they are already estimated.
Concentrations reported by the laboratory below the lowest standard are flagged (J) on the Data summary Table as estimated values. All other necessary qualifications are defined in Table I.
(1) = The Toxic Equivalent concentration is calculated with the Toxicity Equivalency Factors (TEFs) found in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.

Summary Table
2378-TCDD Analysis - SPMD Samples (pg, total)

SITE. Centredale Manor - N. Providence, RI
CASE NO: Centredale SPMD; SDG NO: 50971-19 D/F
LABORATORY: Battelle - Columbus, Ohio

SAMPLE NUMBER	Toxicity Equivalency Factors (1)	CMS-SPMD2-W-02		CMS-SPMD2-S-01		CMS-SPMD1-W-01		CMS-SPMD1-W-02		CMS-SPMD1-S-01		CMS-SPMD-MW05S-01	
STATION LOCATION		SPMD2, Discharge zone 1, water column		SPMD2, Discharge zone 1, sediment		SPMD1, Upstream, water column		SPMD1, Upstream, water column		SPMD1, Upstream, sediment		MW-05S, Well MW-05S	
MATRIX.		SPMD		SPMD		SPMD		SPMD		SPMD		SPMD	
TCDD CONC		pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*	pg, total	DL/EMPC*
2,3,7,8-TCDD	1.0000	UJ	86.93	46922.48		UJ	154.36	UJ	13.21	U	16.50	2470.04	
TOXIC EQUIVALENT(1)		0.0 UJ		47000		0.0 UJ		0.0 UJ		0.0 U		2500	
DILUTION FACTOR		1.0		10.0		1.0		1.0		1.0		1.0	
DATE SAMPLED		06/30/2005		06/30/2005		06/30/2005		06/30/2005		06/30/2005		06/30/2005	
DATE OF RECEIPT		07/06/2005		07/06/2005		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
SAMPLE EXTRACTION DATE		*07/12/2005*		*07/12/2005*		07/12/2005		07/12/2005		07/12/2005		07/12/2005	
ANALYSIS DATE		07/29/2005		08/02/2005		07/29/2005		07/29/2005		07/29/2005		07/29/2005	
LAB SAMPLE ID		50226-88-12		50226-88-13		50226-88-14		50226-88-15		50226-88-16		50226-88-17	

* = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "*". The DL values are unmarked. *The EMPC values are not qualified with a "J", since they are already estimated*
Concentrations reported by the laboratory below the lowest standard are flagged (J) on the Data summary Table as estimated values. All other necessary qualifications are defined in Table I.
(1) = The Toxic Equivalent concentration is calculated with the Toxicity Equivalency Factors (TEFs) found in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and *Wildlife", Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.*

Steve Stodola
US EPA Approval Signature

10/24/05
Date
October 20, 2005

Ms. Christine Clark
Regional Sample Control Custodian
Office of Environmental Measurement and Evaluation
U.S. EPA Region I
11 Technology Drive
North Chelmsford, Massachusetts 01863

Re: Task Order No. 024, Task No. 2, TDF No. 1899
Case No. Centredale - SPMD Sediments, SDG No. 50971-29 D/F
Battelle - Columbus, Ohio
Centredale Manor Site - North Providence, RI

TCDD: 5/Sediments/ CMS-SD-5001-0005-01, CMS-SD-5002-0005-01, CMS-SD-5003-0005-01, CMS-SD-5004-0005-01, CMS-SD-5005-0005-01

1/Soil SRM/Wellington DX-2 (50971-29-09)

Dear Ms. Clark:

A Tier III data validation was performed on the 2378-TCDD analytical data for five sediment samples and one Standard Reference Material (SRM) collected by Battelle for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The samples were analyzed according to EPA Method 1613B, September 15, 1997. The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (dated March 2005) and the Final Work Plan for Groundwater, Semi-Permeable Membrane Device (SPMD) and Sediment Collections (dated April 2005) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1613B, September 15, 1997, defaulting next to Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/08/03). The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness (Tier I)
- * Preservation and Technical Holding Times
- * PE Samples/Accuracy Check
- * Window Defining Mix
- * Initial and Continuing Calibrations
- * Chromatographic Resolution
- * Instrument Sensitivity Check

*	●	Blanks
*	●	Matrix Spike/Matrix Spike Duplicate
*	●	Laboratory Control Sample
NP	●	Field Duplicates
*	●	Internal/Clean-Up Standards
*	●	Sample Analysis and Identification
*	●	Sample Quantitation
*	●	Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
	●	2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity
*	●	System Performance

* - All criteria were met for this parameter.
NP - Not Provided by the sampler for the sediment samples as noted in the Final Work Plan.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives as found in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005):

- To generate data of quality sufficient to define where the dioxin contamination is located in sediments laterally and vertically so that decisions can be made about the remedial alternatives that would be undertaken in the clean up of the site.

One Wellington Laboratories Standard Reference Material sample (Wellington DX-2 in soil) was evaluated for this SDG. The 2378-TCDD congener recovered within the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005) specified criterion of ± 30% D from the consensus values (for certified values > 5xMDL).

The data are accepted as reported by the laboratory. The reported results are usable for the site objectives.

Data Completeness (Tier I)

The following data or information in the data package had discrepancies and/or were missing:

1. The laboratory was asked to provide documentation of the certified and informational values and their respected acceptable ranges for the SRM Wellington DX-2.

2. The laboratory numbered page 466 as 456. As a result, all of the subsequent pages (456 through 558) have incorrect page numbers. The laboratory was asked to make all necessary corrections to the page numbers.

3. There are slight discrepancies between the GPC corrected sample weight reported on page 75 and the values reported on the quantitation reports, e.g., GPC corrected sample weight for sample CMS-SD-5001-0005-01 is reported as 6.3285 g on page 75 and as 6.2561 g on the quantitation report. The laboratory was asked to clarify these discrepancies and if necessary to submit corrected pages.

The above items were requested via the TOPO on September 22, 2005. The laboratory's response was received via TOPO on October 3, 2005. Additional clarification to item #3 was requested on October 4, 2005. The laboratory's response was received on October 13, 2005. All items were adequately addressed.

2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. There are no differences between the TE values reported by the laboratory and the ones calculated by the data validator. The TEF values used in the Data Summary Table correspond to the TEF values in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.

System Performance

No trends noted.

Very truly yours,

LOCKHEED ENVIRONMENTAL

Maria E. Baca
Senior Scientist

Louis Macri
ESAT Program Manager

cc: Anna Krasko, EPA RPM (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
PE Results
Communications
Field Notes

Table I
Recommendation Summary Table for 2378-TCDD
Centredale Manor Site
Case No. Centredale - SPMD Sediments, SDG No. 50971-29 D/F

Sample Nos.	CMS-SD-5001-0005-01	CMS-SD-5002-0005-01	CMS-SD-5003-0005-01	CMS-SD-5004-0005-01	CMS-SD-5005-0005-01
Congener					
2378-TCDD	A	A	A	A	A

A - Accept all data.

EPA-NE - Data Validation Worksheet

Overall Evaluation of Data - Data Validation Memorandum - Table II

DIOXIN ANALYSIS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability	Potential Usability Issues
		Analytical Error	Sampling Error*		
The following is a summary of the site investigation/assessment objectives as found in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005): To generate data of quality sufficient to define where the dioxin contamination is located in sediments laterally and vertically so that decisions can be made about the remedial alternatives that would be undertaken in the clean up of the site.	Yes. Sampling Method appropriate for all samples Yes, Analytical Method appropriate for all samples.	Refer to qualification in R/S Key on Table I: None	Refer to qualification in R/S Key on Table I: None	**	One Wellington Laboratories Standard Reference Material sample (Wellington DX-2 in soil) was evaluated for this SDG. The 2378-TCDD congener recovered within the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005) specified criterion of ± 30% D from the consensus values (for certified values > 5xMDL). The data are accepted as reported by the laboratory. The reported results are usable for the site objectives.

* The evaluation of "sampling error" cannot be completely assessed in the data validation.

** Sampling variability is not assessed in data validation.

Validator: Marie Bare

Date: 10/20/05

Data Summary Table
2378-TCDD Analysis - Sediment Samples (pg/g, dry)

SITE: Centredale Manor - N. Providence, RI
CASE NO: Centredale - SPMD Sediments, SDG NO 50971-29 D/F
LABORATORY: Battelle - Columbus, Ohio

SAMPLE NUMBER	Toxicity Equivalency Factors (1)	CMS-SD-5001-0005-01		CMS-SD-5002-0005-01		CMS-SD-5003-0005-01		CMS-SD-5004-0005-01		CMS-SD-5005-0005-01	
STATION LOCATION:		Sediment Co-Located with SPMD-1		Sediment Co-Located with SPMD-2		Sediment Co-Located with SPMD-3		Sediment Co-Located with SPMD-4		Sediment Co-Located with SPMD-5	
MATRIX:		Sediment		Sediment		Sediment		Sediment		Sediment	
TCDD CONC:		pg/g	DL/EMPC*	pg/g	DL/EMPC*	pg/g	DL/EMPC*	pg/g	DL/EMPC*	pg/g	DL/EMPC*
2,3,7,8-TCDD	1.0000	2.58		5069.36		1189.83		445.58		437.28	
TOXIC EQUIVALENT(1):		2.6		5100		1200		450		440	
PERCENT SOLIDS:		87.9		94.5		93.1		85.7		87.7	
DILUTION FACTOR:		1.0		5.0		1.0		1.0		1.0	
DATE SAMPLED:		06/03/2005		06/03/2005		06/03/2005		06/03/2005		06/03/2005	
DATE OF RECEIPT:		06/07/2005		06/07/2005		06/07/2005		06/07/2005		06/07/2005	
SAMPLE EXTRACTION DATE:		08/22/2005		08/22/2005		08/22/2005		08/22/2005		08/22/2005	
ANALYSIS DATE:		08/26/2005		08/30/2005		08/26/2005		08/26/2005		08/26/2005	
LAB SAMPLE ID:		50226-86-02		50226-86-03		50226-86-04		50226-86-05		50226-86-06	

* = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "*". The DL values are unmarked. The EMPC values are not qualified with a "J", since they are already estimated.
Concentrations reported by the laboratory below the lowest standard are flagged (J) on the Data summary Table as estimated values. All other necessary qualifications are defined in Table I.
(1) = The Toxic Equivalent concentration is calculated with the Toxicity Equivalency Factors (TEFs) found in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.

Steve Stadola
US EPA Approval Signature

10/13/05
Date
October 11, 2005

Ms. Christine Clark
Regional Sample Control Custodian
Office of Environmental Measurement and Evaluation
U.S. EPA Region I
11 Technology Drive
North Chelmsford, Massachusetts 01863

Re: Task Order No. 024, Task No. 2, TDF No. 1901
Case No. Centredale - SPMD Groundwater, SDG No. 50971-20-35 D/F
Battelle - Columbus, Ohio
Centredale Manor Site - North Providence, RI

Dioxin/Furan: 1/GW/ CMS-GW-MW05S-05

Dear Ms. Clark:

A Tier III data validation was performed on the dioxin/furan analytical data for one groundwater sample collected by Battelle for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The sample was analyzed according to EPA Method 1613B, September 15, 1997. The sample was validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (dated March 2005) and the Final Work Plan for Groundwater, Semi-Permeable Membrane Device (SPMD) and Sediment Collections (dated April 2005) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1613B, September 15, 1997, defaulting next to Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/08/03). The data were evaluated based on the following parameters:

	●	Overall Evaluation of Data and Potential Usability Issues
*	●	Data Completeness (Tier I)
*	●	Preservation and Technical Holding Times
NP	●	PE Samples/Accuracy Check
*	●	Window Defining Mix
	●	Initial and Continuing Calibrations
*	●	Chromatographic Resolution
*	●	Instrument Sensitivity Check
*	●	Blanks
NA	●	Matrix Spike/Matrix Spike Duplicate
*	●	Laboratory Control Sample
NP	●	Field Duplicates
*	●	Internal/Clean-up Standards
*	●	Sample Analysis and Identification

*	•	Sample Quantitation
*	•	Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
	•	2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity
*	•	Required Sample Reruns and Second Column Confirmation
*	•	System Performance

* - All criteria were met for this parameter.
NP - Not Provided by the sampler for the groundwater sample as noted in the Final Work Plan.
NA - Not Analyzed due to insufficient sample volume in the second re-extracted batch.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives as found in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005):

- To generate data of quality sufficient to define where the dioxin contamination is located in sediments laterally and vertically so that decisions can be made about the remedial alternatives that would be undertaken in the clean up of the site.

A GPC malfunction occurred during a clean-up step of the original sample extract and the associated QC samples (batch extracted on July 12, 2005). This lead to the extract losses and consequently, to very low or no recoveries of the internal standards and clean-up standards in the method blank, Laboratory Control Sample (LCS), and Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples. As a result, the laboratory re-extracted the groundwater sample with the required quality control samples on August 22, 2005. In this set of the data, all of the internal standards, including the clean-up standards recovered within the quality control limits of 25-150% as specified in the Centredale Manor Tasks 19-22 QAPP. The data validator used professional judgement to validate and report data only from the batch extracted on August 22, 2005.

Data validation identified some data quality problems which do not have a significant impact on the usability of the data. See the following discussion for details.

Initial and Continuing Calibrations

The following table summarizes the ending Calibration Verification (CV) concentrations which did not meet the quality control limits as specified in Table 8 of EPA Method 1613B.

CV Date	Congener	Conc Found ng/mL	Conc. Range ng/mL	Action		Affected Sample
				Positive Detects	NDs	
8/30/05 (ending)	$^{13}C_{12}$-12378-PeCDF	143	76-130	J	UJ	CMS-GW-MW05S-05
	$^{13}C_{12}$-23478-PeCDF	140	77-130			

The data associated with the noncompliant calibration verification are qualified due to the variability of the calibration standard. The quantitation of the associated analytes in the samples could be biased.

2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. There are no differences between the TE values reported by the laboratory and the ones calculated by the data validator. The TEF values used in the Data Summary Table correspond to the TEF values in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.

System Performance

The laboratory experienced problems with a GPC clean-up process. A re-extracted field sample was processed without any clean-up problems.

October 11, 2005

Very truly yours,

LOCKHEED ENVIRONMENTAL

Maria E. Baca
Senior Scientist

Louis Macri
ESAT Program Manager

cc: Anna Krasko, EPA RPM (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
Field Notes

Table I
Recommendation Summary Table for Dioxins/Furans
Centredale Manor Site
Case No. Centredale - SPMD Groundwater, SDG No. 50971-20-35 D/F

Sample No.	CMS-GW-MW05S-05
Compound	
2378-TCDD	A
12378-PeCDD	A
123478-HxCDD	A
123678-HxCDD	A
123789-HxCDD	A
1234678-HpCDD	A
OCDD	A
2378-TCDF	A
12378-PeCDF	J[1]
23478-PeCDF	J[1]
123478-HxCDF	A
123678-HxCDF	A
123789-HxCDF	A
234678-HxCDF	A
1234678-HpCDF	A
1234789-HpCDF	A
OCDF	A

Table I
Recommendation Summary Table for Dioxins/Furans

A	-	Accept results.
J[1]	-	Internal standard % recovery outside criterion in the ending Calibration Verification standard: J detects and UJ non-detects.

EPA-NE - Data Validation Worksheet

Overall Evaluation of Data - Data Validation Memorandum - Table II

DIOXIN/FURAN ANALYSIS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability	Potential Usability Issues
		Analytical Error	Sampling Error*		
The following is a summary of the site investigation/assessment objectives as found in the Centredale Manor Tasks 19-22 QAPP, Addendum 3 (March 2005): To generate data of quality sufficient to define where the dioxin contamination is located in sediments laterally and vertically so that decisions can be made about the remedial alternatives that would be undertaken in the clean up of the site.	Yes, Sampling Method appropriate for all samples Yes, Analytical Method appropriate for all samples.	Refer to qualification in R/S Key on Table I: J'	Refer to qualification in R/S Key on Table I: None	**	A GPC malfunction occurred during a clean-up step of the original sample extract and the associated QC samples (batch extracted on July 12, 2005). This lead to the extract losses and consequently, to very low or no recoveries of the internal standards and clean-up standards in the method blank, Laboratory Control Sample (LCS), and Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples. As a result, the laboratory re-extracted the groundwater sample with the required quality control samples on August 22, 2005. In this set of the data, all of the internal standards, including the clean-up standards recovered within the quality control limits of 25-150% as specified in the Centredale Manor Tasks 19-22 QAPP. The data validator used professional judgement to validate and report data only from the batch extracted on August 22, 2005. Data validation identified some data quality problems which do not have a significant impact on the usability of the data. See discussion in the data validation memorandum for details.

* The evaluation of "sampling error" cannot be completely assessed in the data validation.

** Sampling variability is not assessed in data validation.

Validator: Marie Bare

Date: 10/11/05

Data Summary Table
Dioxin/Furan Analysis - Groundwater Sample (pg/L)

SITE: Centredale Manor - N. Providence, RI
CASE NO. Centredale - SPMD Groundwater; SDG NO: 50971-20-35 D/F
LABORATORY Batteile - Columbus, Ohio

SAMPLE NUMBER	Toxicity	CMS-GW-MW05S-05	
STATION LOCATION	Equivalency	Groundwater from Well MW05S	
MATRIX	Factors (1)	Groundwater	
TCDD/TCDF CONC		pg/L	DL/EMPC*
2,3,7,8-TCDD	1.0000	4144.76	
1,2,3,7,8-PeCDD	1.0000	6.19	
1,2,3,4,7,8-HxCDD	0.1000	U	2.38
1,2,3,6,7,8-HxCDD	0.1000	U	2.32
1,2,3,7,8,9-HxCDD	0.1000	U	2.12
1,2,3,4,6,7,8-HpCDD	0.0100	2.88	
OCDD	0.0001	16.53	
2,3,7,8-TCDF	0.1000	1.82	
1,2,3,7,8-PeCDF	0.0500	UJ	8.02
2,3,4,7,8-PeCDF	0.5000	UJ	7.10
1,2,3,4,7,8-HxCDF	0.1000	U	3.51
1,2,3,6,7,8-HxCDF	0.1000	U	3.38
1,2,3,7,8,9-HxCDF	0.1000	U	3.92
2,3,4,6,7,8-HxCDF	0.1000	U	3.47
1,2,3,4,6,7,8-HpCDF	0.0100	1.41	
1,2,3,4,7,8,9-HpCDF	0.0100	U	1.49
OCDF	0.0001	4.50	
TOTAL TCDD		4350.55 J	
TOTAL PeCDD		125.42 J	
TOTAL HxCDD		UJ	2.26
TOTAL HpCDD		2.88 J	
TOTAL TCDF		129.63 J	
TOTAL PeCDF		415.07 J	
TOTAL HxCDF		40.13 J	
TOTAL HpCDF		1.41 J	
TOXIC EQUIVALENT(1)		4200 J	
DILUTION FACTOR		1.0	
DATE SAMPLED		06/30/2005	
DATE OF RECEIPT		07/06/2005	
SAMPLE EXTRACTION DATE:		08/22/2005	
ANALYSIS DATE		08/30/2005	
LAB SAMPLE ID		50226-88-23	

* = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "*". The DL values are unmarked. The EMPC values are not qualified with a "J", since they are already estimated Concentrations reported by the laboratory below the lowest standard are flagged (J) on the Data summary Table as estimated values. All other necessary qualifications are defined in Table I.

(1) = The Toxic Equivalent concentration is calculated with the Toxicity Equivalency Factors (TEFs) found in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife". Environmental Health Perspectives, Volume 106 (12), December 1998, Table 1, page 778.

ENVIRONMENTAL STANDARDS

Setting the Standards for Innovative Environmental Solutions

October 28, 2005

Ms. Dierdre Dahlen
Battelle Duxbury Operations
397 Washington Street
Duxbury, MA 02332

Dear Ms. Dahlen:

Enclosed is the quality assurance (QA) review of the organic data for the Centredale Manor Restoration Project Superfund Site in North Providence, Rhode Island. The investigative samples, which were collected on June 30, 2005, were grouped into sample delivery groups (SDGs) C5G010308 and C5G060123 by Severn Trent Laboratories, Inc. of Pittsburgh, Pennsylvania. The Environmental Standards data reviewer performed a Region I Tier II limited validation of the data concentrating on method compliance and data usability issues; however, this QA review also includes any contractual reporting inconsistencies affecting data that were noted during the usability assessment.

Overall, the data quality is good. Based on this QA review, several volatile organic results were qualified due to blank contamination, out-of-criteria matrix spike/matrix spike duplicate recoveries, and calibration issues.

If you have any questions/comments, please do not hesitate to call.

Sincerely,

Kyle R. Clay
Senior Quality Assurance Chemist II/
Project Manager

Concurred by:

David R. Blye, CEAC
Quality Assurance Specialist/
Principal

KRC/DRB:hm
Enc.

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Section 1 Quality Assurance Review

A. Organic Data

The organic analyses of five aqueous samples (including QC samples) were performed by Severn Trent Laboratories, Inc. (STL) of Pittsburgh, Pennsylvania. The samples were analyzed for volatile organic compounds (VOCs) by US EPA SW-846 Method 8260B. These analyses are specified on Table 1. The laboratory organized the samples into two sample delivery groups (SDG C5G010308 and SDG C5G060123).

The findings in this report are based upon a rigorous review of holding times, condition of samples upon laboratory receipt, blank analysis results, laboratory control sample (LCS) recoveries, matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision, surrogate recoveries, field duplicate precision, instrument sensitivity, instrument tuning, internal standard areas, and calibrations.

Overall, the organic data quality appears to be good. The data reviewer has edited the laboratory-reported data and QC forms based on the deficiencies and comments in this QA review. Contractual and reporting requirements were met for this data set. Organic data qualifiers associated with the samples that underwent data validation are based upon a Tier II review of the data provided and are presented in the Organic Data Qualifiers section; these qualifiers should not be applied to any organic results that did not undergo data validation. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the data usability issues that follow should not necessarily be construed as an indication of laboratory performance.

Noncorrectable Deficiencies

1. Samples CMS-GW-MW05S-05, CMS-GW-MW05S-05DU, CMS-GW-MW05S-05MS, and CMS-GW-MW05S-05MSD were collected and submitted to the laboratory on 6/30/05 (SDG C5G010308). The associated trip blank (sample TB) was not submitted until 7/05/05 (SDG C5G060123). According to the Centredale Manor Tasks 19-22 QAPP – Addendum (Worksheet #22a), trip blanks should be submitted with every sample cooler. The trip blank sample was not utilized to assess possible contamination introduced during transport of samples CMS-GW-MW05S-05, CMS-GW-MW05S-05DU, CMS-GW-MW05S-05MS, and CMS-GW-MW05S-05MSD. It should be noted that positive results for toluene and methylene chloride were reported in the trip blank sample; however, toluene was not observed in the associated field samples and methylene chloride was present in the method blank associated with samples CMS-GW-MW05S-05, CMS-GW-MW05S-05DU, CMS-GW-MW05S-05MS, CMS-GW-MW05S-05MSD, and TB. Qualification of data was not warranted due to the lack of a trip blank associated with the project samples or the positive results in sample TB.

2. An equipment blank was not collected and analyzed with this data set. According to the Centredale Manor Tasks 19-22 QAPP – Addendum (Worksheet #22a), equipment blanks should be collected and submitted at a frequency of 1 per 20 field samples. The possibility of contamination introduced during the sampling process could not be evaluated for samples CMS-GW-MW05S-05, CMS-GW-MW05S-05DU, CMS-GW-MW05S-05MS, and CMS-GW-MW05S-05MSD. Qualification of data was not warranted due to the lack of an equipment blank associated with the project samples.

Comments

1. Instrument tuning and calibration summary forms were not originally provided in the data packages submitted for review. Upon request, these forms were provided (see Project Correspondence [Section 6]).

2. Samples CMS-GW-MW05S-05, CMS-GW-MW05S-05DU, CMS-GW-MW05S-05MS, and CMS-GW-MW05S-05MSD were analyzed at initial 1000-fold dilutions. Reporting limits were raised accordingly for the compounds that were not detected in these samples.

With respect to data usability, the principal areas of concern are blank contamination, out-of-criteria MS/MSD recoveries, and calibration issues. Based on a Tier II review of the data provided, the following organic data qualifiers are offered. The following data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.

Organic Data Qualifiers

- Due to presence of methylene chloride in an associated laboratory method blank, the reported positive results for methylene chloride in samples GW-MW05S-05 and CMS-GW-MW05S-05DU should be considered "not-detected" and have been flagged "U" on the data tables. It should be noted that dilution factors and sample volume were taken into consideration when evaluating blank contamination.

- The reporting limits for 1,2-dibromo-3-chloropropane in samples GW-MW05S-05 and CMS-GW-MW05S-05DU may be higher than reported; the "not-detected" results should be considered estimated and have been flagged "UJ" on the data tables. Low recoveries (%R<70%) were observed for 1,2-dibromo-3-chloropropane in the associated MS/MSD analyses.

- The reporting limits for benzene; 1,2-dibromo-3-chloropropane; dichlorodifluoromethane; *trans*-1,3-dichloropropene; and hexachlorobutadiene in samples GW-MW05S-05, CMS-GW-MW05S-05DU, and TB may be higher than reported; the "not-detected" results

should be considered estimated and have been flagged "UJ" on the data tables. High percent differences (%Ds>25%) were observed between the relative response factors (RRFs) for these compounds in the continuing calibration and average RRFs in the associated initial calibration.

- One field duplicate pair (sample GW-MW05S-05 and its field duplicate, sample CMS-GW-MW05S-05DU) was submitted to the laboratory with this data set. Acceptable precision and sample representativeness were demonstrated by the correlation between the reported results in the field duplicate pair. A complete comparison of the field duplicate positive results has been included in Section 3.

- Based on the project-specific reporting requirements, all reported positive results with concentrations between the laboratory method detection limit (MDL) and the project quantitation limit (QL) should be considered estimated and have been flagged "J" on the data tables.

Complete support documentation for this organic QA review is presented in Section 3 of this report. The cover sheet for this section is a checklist of all QA procedures required by the methods and examined in this data review.

C. Conclusions

Overall, the data quality is good. Based on this QA review, several volatile organic results were qualified due to blank contamination, out-of-criteria MS/MSD recoveries, and calibration issues. Overall, the data are acceptable for use, provided the data user understands the limitations and qualifications stated in this QA review. The Laboratory Case Narratives and Chain-of-Custody Records are presented in Sections 4 and 5, respectively. Project Correspondence is presented in Section 6.

Report prepared by:

Kyle R. Clay
Senior Quality Assurance Chemist II/
Project Manager

Report reviewed by:

Eric T. Lahr
Senior Quality Assurance Chemist I

Report reviewed and approved by:

David R. Blye, CEAC
Quality Assurance Specialist/
Principal

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Date: 10/28/05

Appendix A

Field Photographs

Figure A-1. SPMDs Recovered From Well MW-05S, June 30, 2005.

Figure A-2. SPMDs Recovered From Well MW-05S, June 30, 2005.

Figure A-3. SPMD 1 (Approximately 200 ft Upstream) Prior to Retrieval. The Instrument Used for In-situ Data Collection is Shown in the Lower Left Corner.

Figure A-4. SPMD 2 (Discharge Zone One near Well MW-05S) Prior to Retrieval. The Top of the Cage was Completely Covered with Plant Material.

Figure A-5. SPMD 2 (Discharge Zone 1, Near Well MW-05S) After Retrieval, June 30, 2005.

Figure A-6. SPMD 3 (Discharge Zone 2, Near Well MW-05S) Prior to Retrieval, June 30, 2005.

Figure A-7. SPMD 3 (Discharge Zone 2, Near Well MW-05S) Prior to Retrieval, June 30, 2005.

Figure A-8. SPMD 4 (Discharge Zone 3, Near Well MW-05S) Prior to Retrieval, June 30, 2005.

Figure A-9. SPMD 4 (Discharge Zone 3, Near Well MW-05S) After Retrieval, June 30, 2005.

Figure A-10. SPMD 5 (Approximately 250 ft Downstream of Well MW-05S) Prior to Retrieval, June 30, 2005.

Figure A-11. SPMD 5 (Approximately 250 ft Downstream of Well MW-05S) After Retrieval, June 30, 2005.

Figure A-12. SPMD From The Water Column at Location SPMD 5 (Approximately 250 ft Downstream of Well MW-05S) After a 27-day Exposure, June 30, 2005.

Field Log Sheets

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID: SPMD-05 Date: 6-3-05
Northing: 41° 51.408 Time: 9:41
Easting: 71° 29.227 Initials: AM

Groundwater *in situ* parameters		River *in situ* parameters	AT deployment	recovery
Depth to water:				
Water depth:		Water depth:	2.5'	2.5'
pH:		pH:	6.83	6.11
Conductivity:	NA	Sp Conductivity:	0.308 mS/cm	0.0
Temperature:		Temperature:	19.51°C	22.22°C
Turbidity:		Turbidity:	1.7 NTU	reading NG
Purge volume:				

SPMD Deployment/Retrieval:

Date/time deployed: 6/3/05 10:23 TH Initials: AM
Date/time retrieved: 6/30/05 10:12 JMF Initials: AM

	Sample ID's		Time	Initials
Sediment:	CMS-SD-5005-0005-01		9:50	AM
Groundwater:	—	(VOC)	—	—
		(Dioxin)		

SPMD:

water column CMS-SPMD5-W-01 * CMS-SPMD5-W-02 *
sediment CMS-SPMD5-S-01
well —

* spotty coverage of filamentous growth

Other observations/notes:

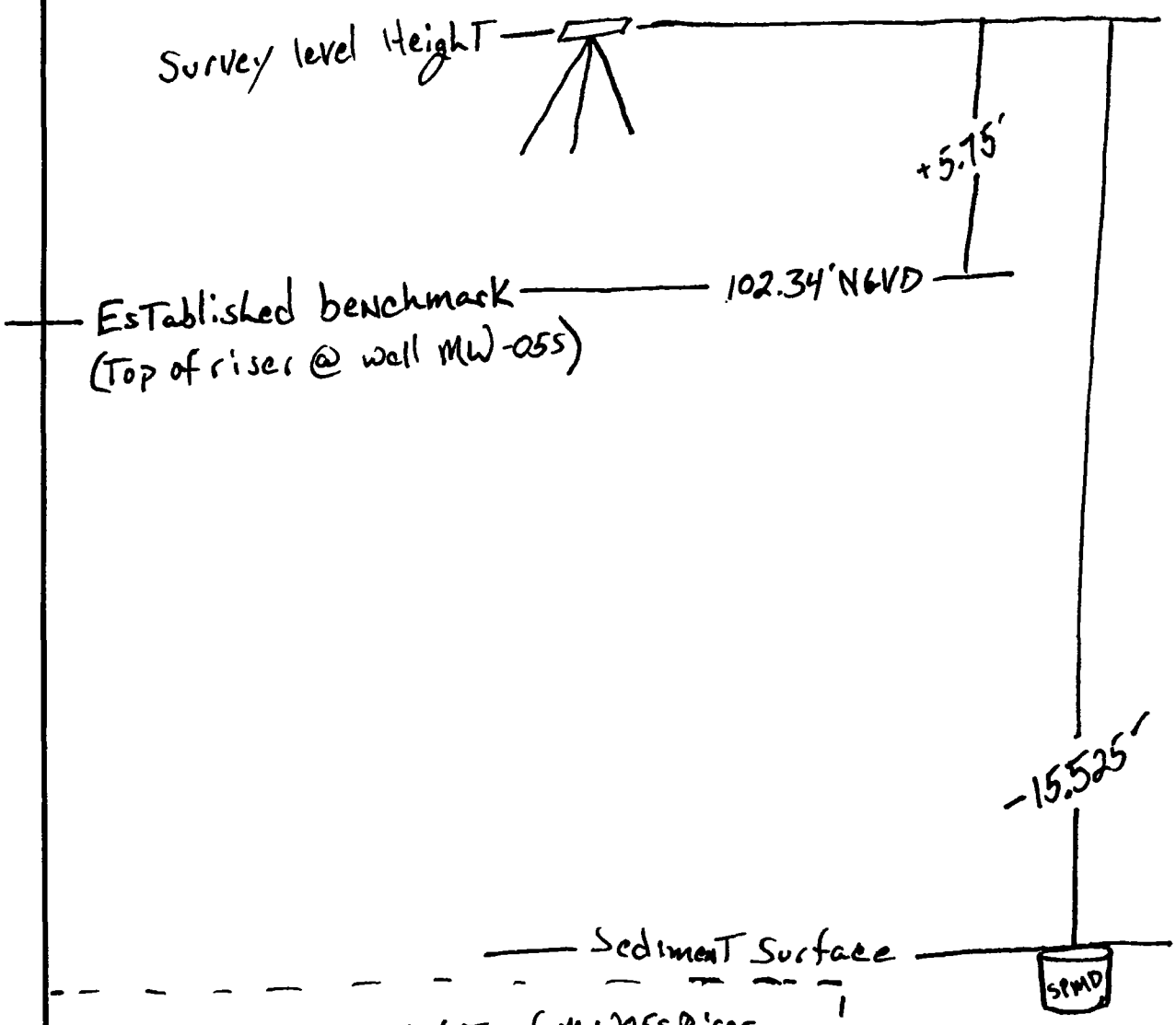
250' Downstream of Well MW-05.
Sediment collected directly into jar. rocky bottom, grab would not work.
Sed type = sand & gravel, cobble excluded from sample.

unable to reach target depth for buried SPMD due to v. rocky bottom

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Vertical Survey Field Log

Station ID:	SPMD-05	Date:	6-3-05
Northing:	41° 51.408′	Time:	~~14:00~~ 15:30 (surveyed)
Easting:	71° 29.227′	Initials:	LM

SPMD-05



102.34′ NGVD Established Top of MW05S Riser
+ 5.75′ level Height
− 15.525′ level To sediment surface
− 0.0 Depth SPMD buried

= 92.565′ NGVD Elevation of Top of SPMD

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID: SPMD-4 Date: 6-3-05

Northing: 41° 51.448' Time: 10:45

Easting: 71° 29.229' Initials: DM

Groundwater *in situ* parameters		River *in situ* parameters Deployment	recovery
Depth to water:			
Water depth:	Water depth:	2.75'	2.75'
pH:	pH:	6.96'	6.4
Conductivity:	SpConductivity:	0.309 mS/cm	0.385
Temperature: NA	Temperature:	19.57°C	20.99°C
Turbidity:	Turbidity:	1.1 NTU	Reading NG
Purge volume:			

SPMD Deployment/Retrieval:

Date/time deployed: 6/3/05 11:06 Initials: TH/AM

Date/time retrieved: 6/30/05 10:43 Initials: JMF/AM

	Sample ID's		Time	Initials
Sediment:	CMS-SD-SD04-0005-~~0010~~ s/b -01		10:55	AM
Groundwater:	—	(VOC)	—	—
	—	(Dioxin)	—	—

SPMD:

water column CMS-SPMD4-W-01 CMS-SPMD4-W-02

sediment CMS-SPMD4-S-01

well —

Other observations/notes:

Small van veen grab used to collect sediment sample.

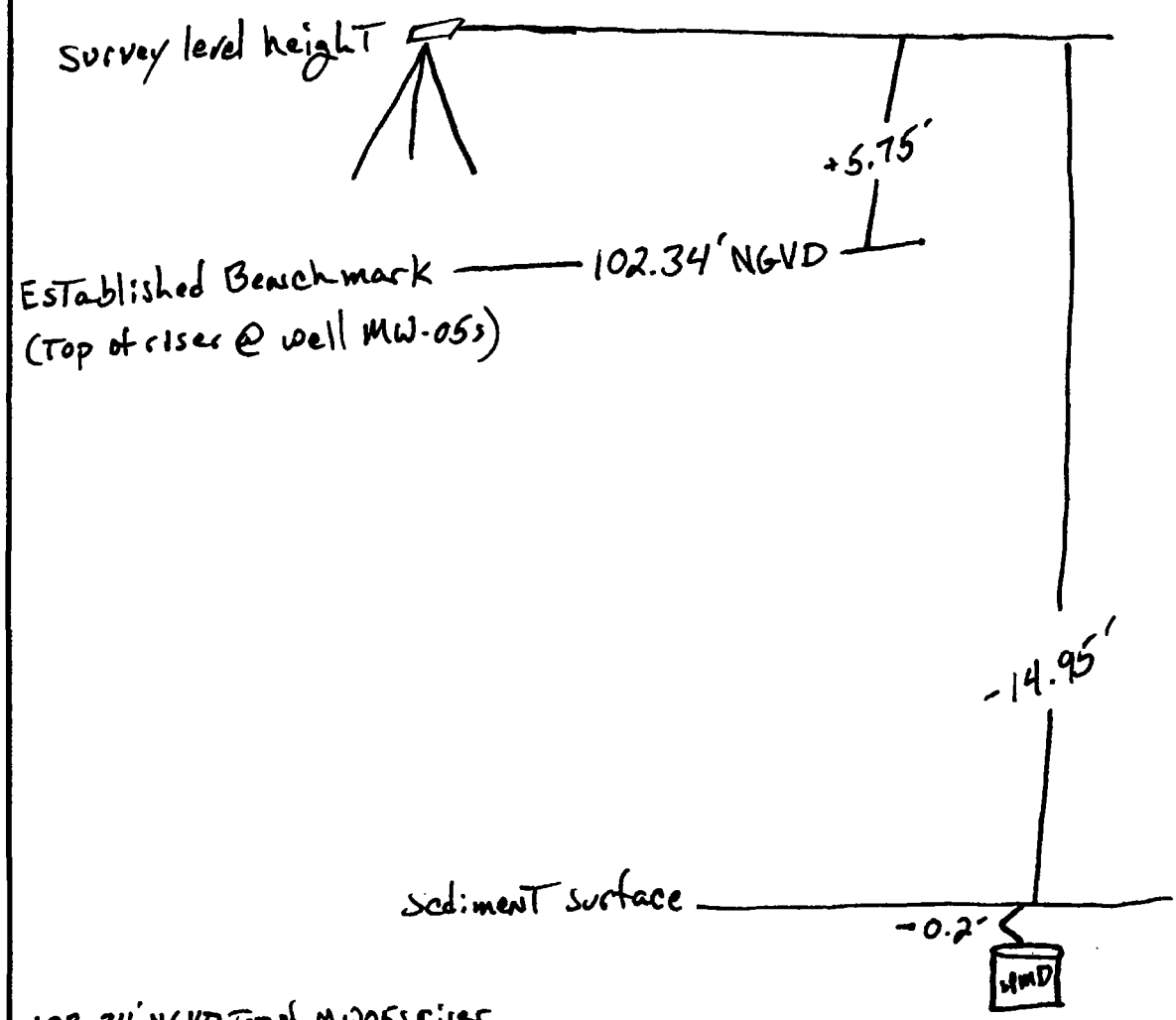
top of SPMD 2-3" below sed surface.

Rocky bottom w/ coarse sand. Moderate current

SPMDs deployed ~2-3' from bottom of Rip Rap bank. This is as close to bank as feasable w/ Rocks/Boulders.

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Vertical Survey Field Log

Station ID:	SPMD-04	Date:	6-3-05
Northing:	41° 51.448'	Time:	1535 (surveyed)
Easting:	71° 29.229'	Initials:	AM



102.34' NGVD Top of MW05S riser
+ 5.75' level height
~~-15 m~~
- 14.95' level To Sediment surface
- 0.2' Depth SPMD buried

= 92.94' NGVD Elevation at Top of SPMD

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID: SPMD-3 Date: 6/3/05
Northing: 41° 51.452' Time: 11:15
Easting: 70 AM 71° 29.232' Initials: SM

Groundwater *in situ* parameters		River *in situ* parameters Deployment	Recover
Depth to water:			
Water depth:		Water depth: 2.6'	2.6'
pH:	NA	pH: 6.95	6.42
Conductivity:		SpConductivity: @ 309 mS/cm	0.40
Temperature:		Temperature: 19.59°C	20.98
Turbidity:		Turbidity: 1.2 NTU	Reading N.G.
Purge volume:			

SPMD Deployment/Retrieval:

Date/time deployed: 6/3/05 11:37 Initials: TH/AM
Date/time retrieved: 6/30/05 11:00 Initials: JMF/AM

	Sample ID's		Time	Initials
Sediment:	CMS-SD-5003-0005-01		11:23	TH
Groundwater:	—	(VOC)	—	—
	—	(Dioxin)	—	—

SPMD:

water column ~~CMS-SD~~ CMS-SPMD3-W-01 CMS-SPMD3-W-02
sediment CMS-SPMD3-S-01 *
well

* slight yellow (yellow-green) coloration on SPMD

Other observations/notes:

Grab used for sediment collection

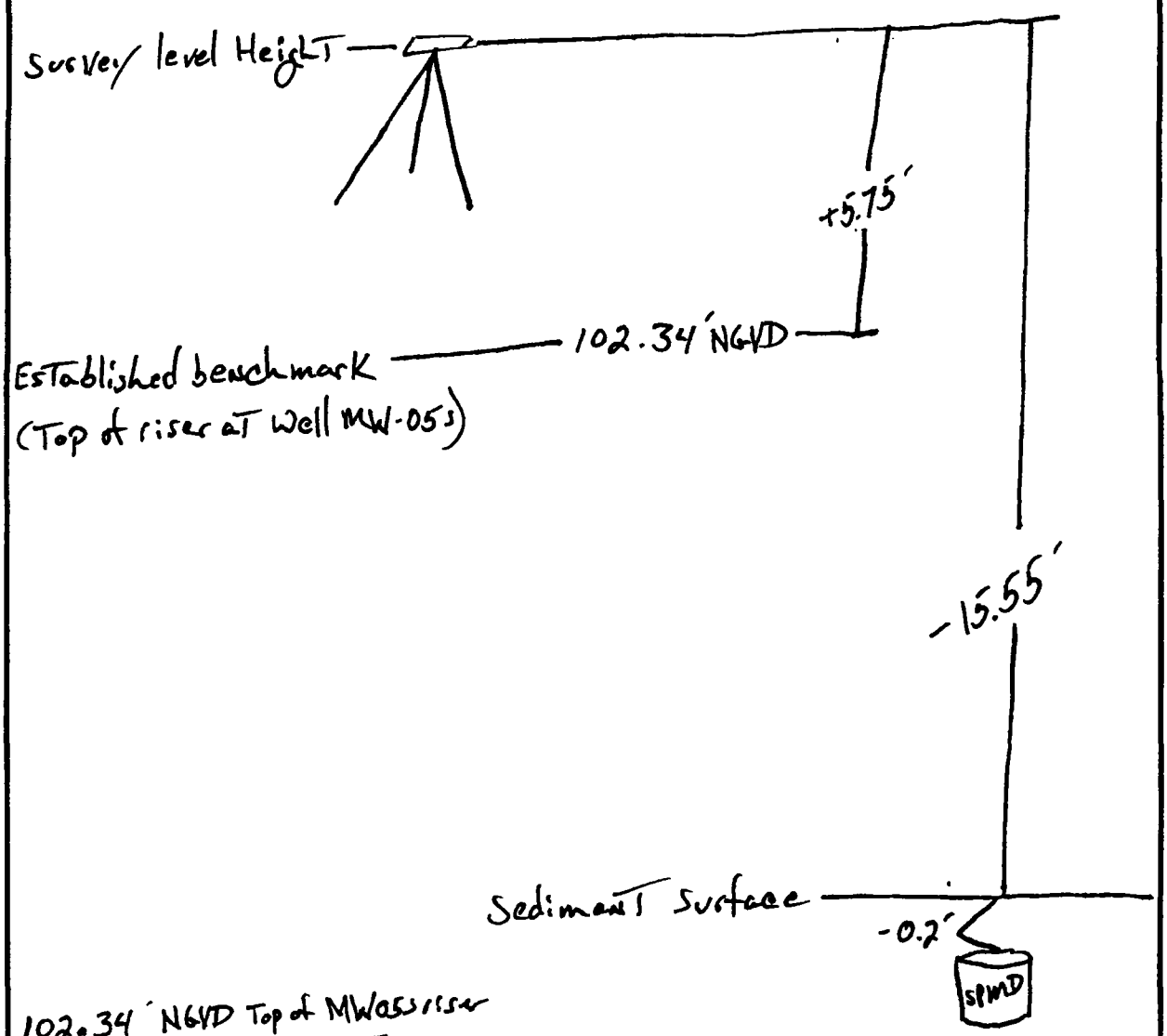
Even though mini-piezometer was unsuccessful, it was noted that near well MW05-S, when river bottom was probed gas bubbles were released. TH 6/3/05

Rocky bottom w/ Coarse sand

Deployed ~2-3' from bottom of Rip Rap bank

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Vertical Survey Field Log

Station ID:	SPMD-03	Date:	6/3/05
Northing:	41° 51.452'	Time:	15:37 (surveyed)
Easting:	71° 29.232'	Initials:	[illegible]



102.34' NGVD Top of MW05S riser
+ 5.75' Level height
-15.55' level To Sediment Surface
- 0.2' Depth SPMD buried

= 92.34' NGVD Elevation at Top of SPMD

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID: SPMD-2 Date: 6/3/05

Northing: 41°51.459' Time: 12:00

Easting: 71° 29.231' Initials: JM

Groundwater *in situ* parameters		River *in situ* parameters	
Depth to water:			
Water depth:		Water depth:	2.7'
pH:		pH:	6.99
Conductivity:	NA	Sp Conductivity:	0.309 mS/cm
Temperature:		Temperature:	19.61°C
Turbidity:		Turbidity:	1.2 NTU
Purge volume:			

SPMD Deployment/Retrieval:

Date/time deployed: 6/3/05 12:10 Initials: TH

Date/time retrieved: 6/30/05 11:18 Initials: JMF/AM

	Sample ID's		Time	Initials
Sediment:	CMS-SD-5602-0005-01		~~11:55~~ 6/6 12:06	TH/AM
Groundwater:		(VOC)		
		(Dioxin)		
SPMD:				
water column	CMS-SPMD2-W-01		CMS-SPMD2-W-02	
sediment	CMS-SPMD2-S-01 *			
well	—			

* yellow coloration on SPMD - almost liquid-like

Other observations/notes:

Sample collected using grab.

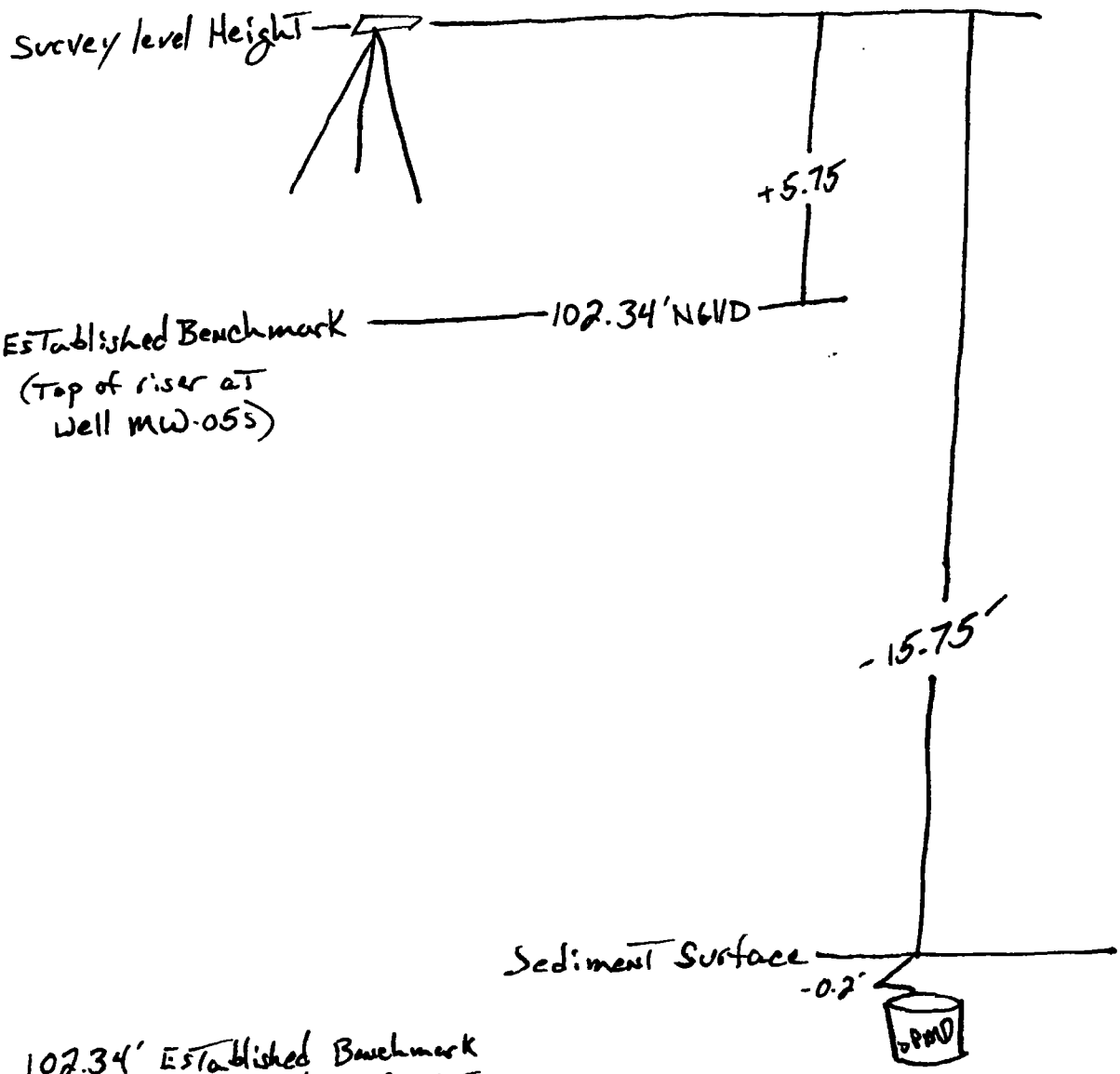
Rocky Bottom w/ coarse sand

Deployed ~2-3' from edge of Rip Rap bank

SPMD buried ~3" Deep

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Vertical Survey Field Log

Station ID:	SPMD-02	Date:	6/3/05
Northing:	41°51.459'	Time:	15:40 (surveyed)
Easting:	71°29.231'	Initials:	LM



102.34' Established Benchmark
Top of MW05S Riser

+ 5.75' level height
- 15.75' level To Sediment Surface
- 0.2' Depth SPMD buried

= 92.14' NGVD Elevation at Top of SPMD

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID:	SPMD-1	Date:	6/3/05
Northing:	41° 51.491'	Time:	1300
Easting:	71° 29.225'	Initials:	[illegible]

Groundwater *in situ* parameters		River *in situ* parameters	Deploy	recover
Depth to water:				
Water depth:	/	Water depth:	2.1'	2.1'
pH:	/	pH:	7.0	6.23
Conductivity:	NA	Sp Conductivity:	0.309 mS/cm	0.319
Temperature:		Temperature:	19.61°C	21.14
Turbidity:	/	Turbidity:	2.0 NTU	Reading N.G.
Purge volume:	/			

SPMD Deployment/Retrieval:

Date/time deployed:	6/3/05	~1300	Initials:	TH
Date/time retrieved:	6/30/05	1138	Initials:	AM / JMT

	Sample ID's		Time	Initials
Sediment:	CMS-SD-SD01-0005-01		12:50	TH/MM
Groundwater:		(VOC)		
		(Dioxin)		
SPMD:				
water column	CMS-SPMD1-W-01	CMS-SPMD1-W-02		
sediment	CMS-SPMD-S-01			
well				

Other observations/notes:

Sed sample collected using large stainless steel spoon. Too rocky to use grab

Location slightly downstream of target due to bottom conditions. Location is in line w/ south end of bumpout on Brook Village

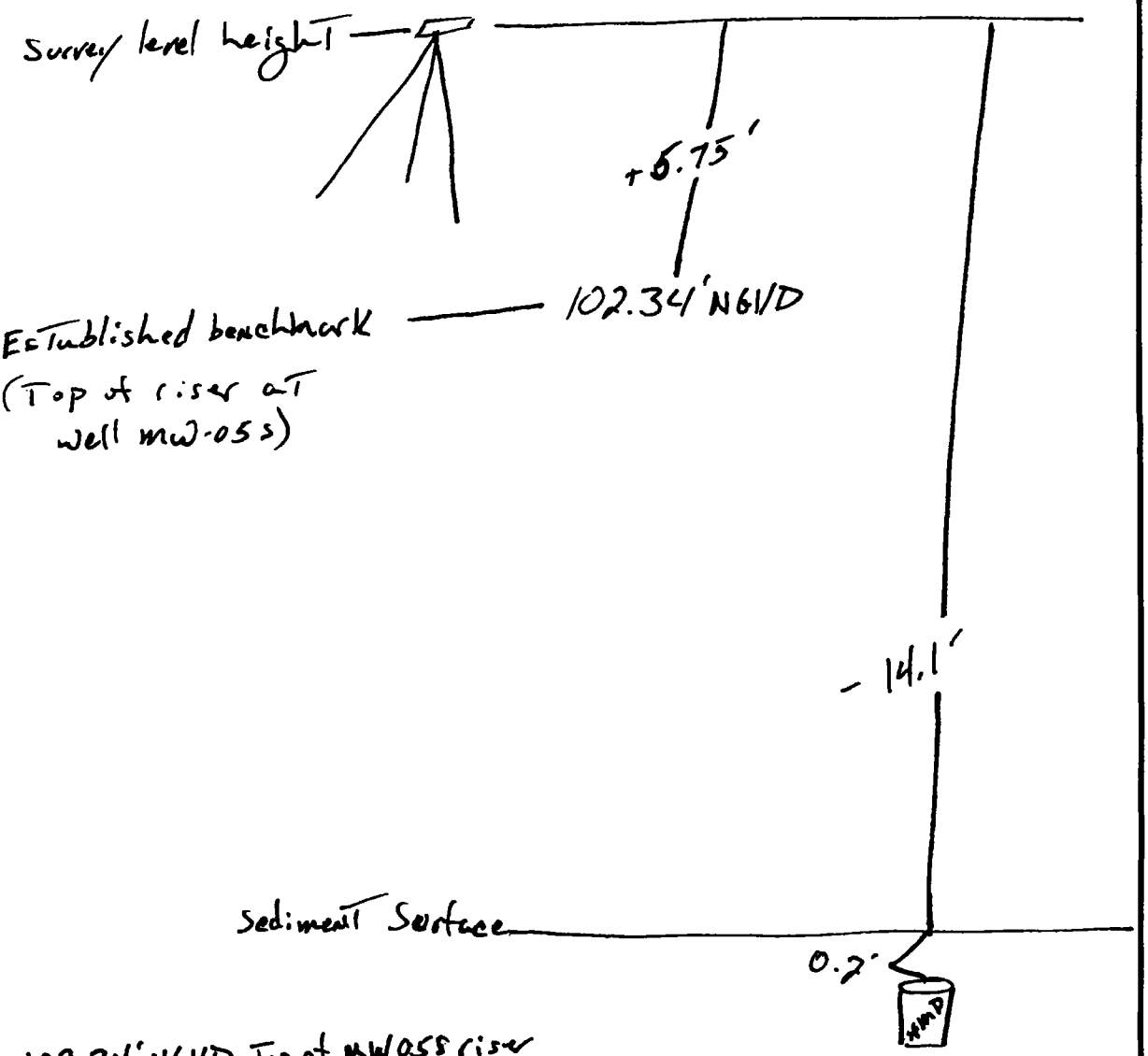
-location selected based on depth of water. Area is generally very shallow (1-2'). To avoid air exposure of water column SPMD, a "deep" hole was identified for deployment.

SPMDS are 1-2' from Rip Rap bank. Sediment SPMD is buried ~3"

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Vertical Survey Field Log

Station ID: SPMD-01	Date: 6/3/05
Northing: 41° 51.491'	Time: 1555 (surveyed)
Easting: 70° 29.225'	Initials: lm

S/b 71° TH 10/29/05



102.34' NGVD Top of MW05S riser
+ 5.75' level height
- 14.1' level to ~~SPMD~~ sediment surface
- 0.2' Depth SPMD buried

93.79' NGVD Elevation at Top of SPMD

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID:	MW-05S	Date:	6/3/05
Northing:	41° 51.454'	Time:	1436
Easting:	71° 29.220'	Initials:	AM

Groundwater *in situ* parameters		River *in situ* parameters	
Depth to water:	4.4'		
Water depth:	4.9'	Water depth:	
pH:	6.38	pH:	
Conductivity:	0.339 mS/cm	Conductivity:	NA
Temperature:	16.24°C	Temperature:	
Turbidity:	14.5 NTU	Turbidity:	
Purge volume:	1.75 gal		

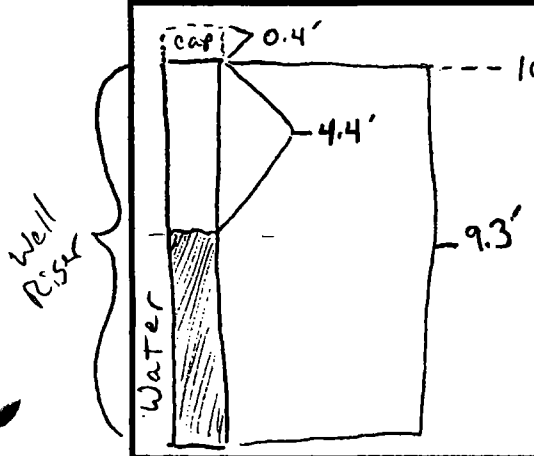
SPMD Deployment/Retrieval:

Date/time deployed:	6/3/05 1439	Initials:	AM/TH
Date/time retrieved:	6/30/05 0926	Initials:	DMF/AM

	Sample ID's	Time	Initials
Sediment:	—	—	—
Groundwater:	CMS-GW-MW05S-05 ① (VOC)	1212	AM
	CMS-GW-MW05S-05 ② (Dioxin)	1228	AM
SPMD:			
water column	—		
sediment	—		
well	CMS-SPMD-MW05S-01	6/30/05 0926	

upper portion (50cm) of SPMD was stained/coated lower portion very clean

Other observations/notes:



Measurements Relative To Top of Riser:

Cap = +0.4'

Water Surface = -4.4'

Bottom of Well = -9.3'

① Also collected CMS-GW-MW05S-05DU, -05MS, -05MSD

② Also collected CMS-GW-MW05S-05DU

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID: P-20 Date: 6/3/05

Northing: 41° 51.450' Time: 1445

Easting: 71° 29.219' Initials: TH/AM

Groundwater *in situ* parameters		River *in situ* parameters	
Depth to water:			
Water depth:		Water depth:	
pH:		pH:	
Conductivity:	NA	Conductivity:	NA
Temperature:		Temperature:	
Turbidity:		Turbidity:	
Purge volume:			

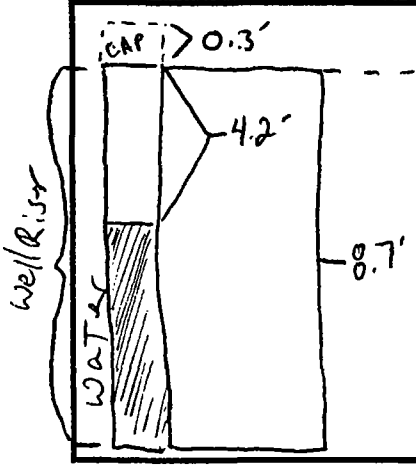
SPMD Deployment/Retrieval:

Date/time deployed: NA Initials: NA

Date/time retrieved: Initials:

	Sample ID's		Time	Initials
Sediment:				
Groundwater:		(VOC)		
		(Dioxin)		
SPMD:	NA			
water column				
sediment				
well				

Other observations/notes:



--- 102.25' previously surveyed NGVD

Measurements Relative To Top of Riser

Cap = +0.4'

Water Surface = -4.2'

Bottom of well = -8.7'

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID: P-2 Date: 6/3/05

Northing: 41° 51.460' Time: 14:50

Easting: 71° 29.221' Initials: [illegible]

Groundwater *in situ* parameters

Depth to water:

Water depth:

pH:

Conductivity:

Temperature:

Turbidity:

Purge volume:

NA

River *in situ* parameters

Water depth:

pH:

Conductivity:

Temperature:

Turbidity:

NA

SPMD Deployment/Retrieval:

Date/time deployed: Initials:

Date/time retrieved: Initials:

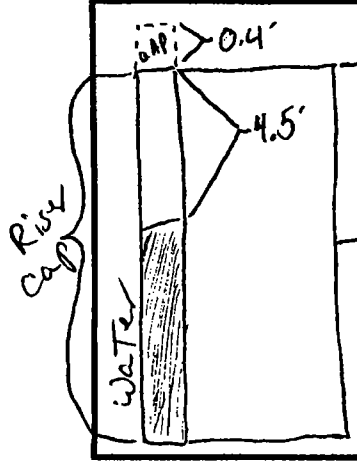
NA

NA

	Sample ID's		Time	Initials
Sediment:				
Groundwater:		(VOC)		
		(Dioxin)		
SPMD:				
water column				
sediment				
well				

NA

Other observations/notes:



102.63' NGVD previously Surveyed

Measurements
Relative To Top of Riser
Cap = +0.4'
Surface of Water = -4.5'
Bottom of Well = -9.2'

Centredale Manor Superfund Restoration Site
SPMD and Groundwater Sampling Field Log

Station ID:	P-3	Date:	6/3/05
Northing:	41° 51.459'	Time:	15:00
Easting:	71° 29.212	Initials:	AW

Measured Parameters (for groundwater sampling/monitoring well measurments):

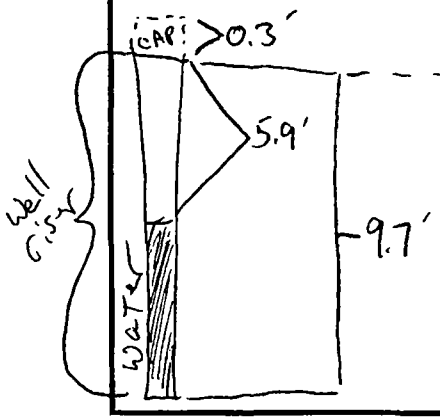
Depth to water	
Water depth	
pH	
Conductivity	
Temperature	N/A
Purge volume	

SPMD Deployment/Retrieval:

Date/time deployed:		Initials:	
Date/time retrieved:	N/A	Initials:	

	Sample ID's		Time	Initials
Sediment:				
Groundwater:		(VOC)		
		(Dioxin)		
SPMD:	N/A			
water column				
sediment				
well				

Other observations/notes:



103.40' NGVD (previously surveyed)

Measurements from Top of Well Riser
- Cap = +0.4'
- Water Surface = -5.9'
- bottom of well = -9.7'